ZAINUL ABEDIN ART MUSEUM, MYMENSINGH, BANGLADESH

By
Yana Zoha
04308007

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BRAC University

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ABSTRACT

This dissertation paper is a descriptive article discussing the various aspects and considerations explored during the thesis project design of the Zainul Abedin Art Musem in Mymensingh, Bangladesh. The following will attempt to describe in detail the various factors which were relevant and the designer was required to understand and consider during the course of the design exercise. Detailed accounts of the site, the history of the artist and his works, museum design standards, and a narrative of the project development are provided to provide a better understanding of the processes involved in designing this particular project for the purpose of an academic thesis.

HYPOTHESES

This publication may provide useful for those looking to expand knowledge regarding the artistic values involved the architectural exploration of the diverse field of contemporary art in Bangladesh, as has been defined by one of its greatest influences, Zainul Abedin. It may be of particular interest to: artists seeking knowledge regarding the history of Zainul Abedin and his style of works, researchers looking for information regarding the site and its activities, historians looking for information resources regarding the artist, the location or other aspects involved during the research phase of the project, and especially to architecture students designing any art museum, especially one dedicated to particular artists, artistic styles or periods in an interpretive way.

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INTRODUCTION

The virtually symbiotic relationship between art and architecture has often been cause for historians to analyze and study past cultures through studying the two as a whole rather than two separate entities. This socio-cultural phenomenon is reflected in Bengali culture by its rich history of art and architecture dating back to the periods of the Moguls. Throughout the recent history of Bangladesh, several contemporary artists have undertaken the challenge of artistically presenting their takes on events occurring in Bangladesh and the lifestyles of its people. Their success in achieving such a feat has enabled a new generation of contemporary artists to further expand this artistic heritage.

One such artist – and also one who was a key contributor to the academic practice of art itself in Bangladesh – was Shilpacharya Zainul Abedin. Throughout the later half of this century, his works have had great influence in shaping the perceptions and styles of Bengali artists and artists worldwide, thanks to his communicative style of art. The significance of his contribution to the global art community is substantial and for the sake of the preservation of our own cultural heritage, it is essential that the artwork of Zainul Abedin be preserved for future generations to study and analyze.

Art designed to evoke human emotion requires to be presented in a space which prepares the human mind for such external imposition: thus enters the component of architecture into this subject. The project "Zainul Abedin Art Museum" will attempt to present the audience with spaces to view the art with a state of mind which maximizes this evocative component in perceiving art.

1 CHAPTER 1: BACKGROUND OF THE PROJECT

1.1 Project Background and History

The key indicators of a nation's sovereignty, culture and history are reflected by the richness represented by its heritage and its culture. This heritage and culture is collectively recorded in the form of all modes of artistic expression which the nation possesses: art, sculpture, music, design, dance, etc. Throughout history, nations around the world have deemed it crucial to protect this cultural heritage and have thus erected elaborate museums and conservation facilities to house every aspect of their national culture. Proper preservation and display of all forms of ancient and contemporary artistic media help future generations get visual cues as to the gradual evolution of a locality's progress through history.

Here in Bangladesh, the artist known as Shilpacharya Zainul Abedin has been attributed as the founder of modern and contemporary style of art. Over time, he had become famous in the field of international art thanks to his own unique style. After the passing of Zainul Abedin in 1976, a building on the shore of the Bhramaputra, purchased by Zainul Abedin himself, was used as a temporary display for some of his works and some commemorations to his life. The local and district administration is currently using this dilapidated building as a makeshift museum-cum-conservation center, named the "Shilpacharya Zainul Abedin Shangrahashala (Artist Zainul Abedin Conservation Center)". However, after several decades since the establishment of the museum there has been little or no effort in part of the government or other concerned authorities to properly preserve this important part of Bangladesh's art history. Due to a lack of proper funding, manpower, and efficient

administration the building hardly grants the ideal conditions in which the contained artwork can be preserved. Another problem arises due to the lack of proper facilities in this improvised museum – local artists, critics, tourists and other potential visitors rarely acknowledge this important chapter in the history of Bangladesh's heritage.

In 1995, the regional administration recognized the issue and had proposed that a new regional museum and conservation center be constructed under the supervision of the Ministry of Cultural Affairs. However, due to numerous reasons, these efforts had led to failure and led to a subsequent project proposal in 1997, which had been amended twice in 1998 and 2001. These attempts too were met with no success. Another decade on since the last attempts made to improve it, the improvisational museum still stands as it was on the day it was established circa 1976 with little in the way of maintenance or improvement. Artists, historians, conservationists and the public are still deprived of a proper museum environment in which to appreciate Shilpacharya Zainul Abedin's work or to better understand the origins and evolutions of his different artworks.

1.2 Project Specification

For the purposes of an academic thesis project, the information provided by the authorities regarding this project is as follows:

Project name: Zainul Abedin Art Museum

Project type: Museum/Gallery and Art Institute (Contemporary Art and Sculpture)

Client: Ministry of Culture and Sport, Government of Bangladesh

Funding body: Government of Bangaldesh

Site Area: 1,72,000 square feet, approximately

Site Location: Mymensingh, Bangladesh

1.3 Given Program

The proposed program provided by the currently involved authorities determining the needs and aspirations for the proposed project are as follows:

▪ Museum	12,300sft
▪ Gallery	8,000sft
▪ Administration	2,400sft
▪ Library	5,700sft
▪ Academic Block	25,300sft
▪ Miscellaneous	10,800sft
▪ Parking	2,200sft
Total	**66,700sft**

1.4 Rationale of the Project and Site Selection

In his time, Zainul Abedin was a forerunner in the field of contemporary art, not only here in Bangladesh and the Indian subcontinent, but also to his peers around the world. The global art community recognizes Zainul Abedin as an important contemporary artist of the century. Visitors from all over Bangladesh and other countries visit the museum which currently serves to showcase his works. Some of his original artwork is shown in museums around the world as eminent examples of contemporary art.

Despite the obvious need to properly preserve, showcase and study the works of Zainul Abedin, the relevant authorities have failed to provide a proper facility in which to do so. The availability of this site, however, allows for the perfect opportunity to design a museum complex to house Zainul Abedin's works, as well as to honor his memory as one of the founders of contemporary art in Bangladesh.

The site is a parcel of land of about 1,72,000sft near the outskirts of Mymensingh, adjacent to the Bhramaputra River, purchased by Zainul Abedin himself to use as a temporary art gallery during the course of his artistic career. Since then, the building which is contained in the site has been used as a museum, but, as mentioned previously in this paper, it serves the purpose in neither a conservational nor presentable manner.

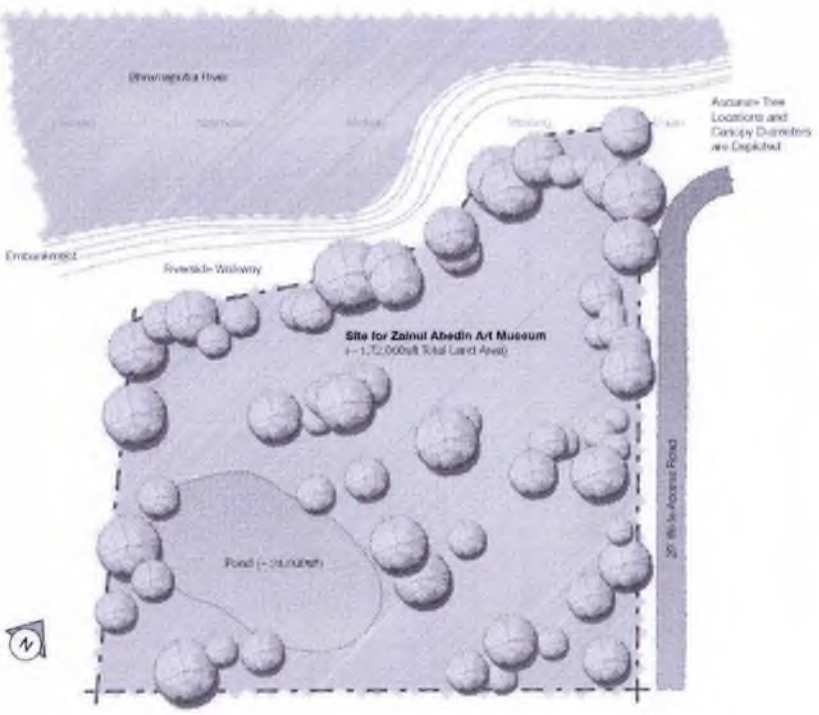


Figure 1 - Site Plan
Source: Zoha, Y.

1.5 Reasons for choosing the project

Art and architecture have gone hand in hand since the inception of either of the two professions: both rely heavily on the creativity of the designer and the critique of the audience. The Zainul Abedin Art Museum would have to preserve and exhibit one of the most significant chapters in the history of contemporary art in Bangladesh, and as such, this provides the architectural designer the opportunity to exercise a design style which reflects the narrative of the history that is contained within the structure.

As an exercise for a design thesis, this project requires that the designer fully understand the different qualities the resulting building should possess in the effort to complement the artwork while being sensitive to the surrounding factors, especially since the site itself is a significant part of the artist's personal history – this being the region in which he himself conceived and exhibited many of his works with the river Bhramaputra as a source of inspiration.

1.6 Objectives of the Project

Having established the need to showcase and preserve Zainul Abedin's contributions to the artistic heritage of Bangladesh, a proper museum complex would also address several other issues:

The first issue being that local artists, historians, cultural analysts and art students have no direct functional connection to the history of Bangladesh's cultural heritage, this is due to the lack of proper facilities which house both the historic aspect and functional component of art in the same premises. A proper museum facility would

ideally allow for experts and audiences to come together in an environment which encourages the study, production, analysis and critique of art in one place.

The second issue which needs to be addressed is that the growing urban environment of the region of Mymensingh has little to offer its inhabitants of a public area which promotes cultural learning. The location of the site and the type of project combined provides opportunity to provide local inhabitants and visitors alike to appreciate an eclectic experience which combines the pristine natural form of the Bhramaputra River as well as important pieces of artwork which define the history of Bangladesh's artistic heritage. Ideally, such a museum complex would not be inward and concave, but rather extroverted, bold and welcoming to encourage people to view and participate.

The third and most important issue which a well designed museum complex would have to address is the conservation of art: the failure of the current museum facilities to preserve the artworks means that inevitably, some day Zainul Abedin's paintings and curios will fall victim to forces of nature, thus wiping out all signs of this important chapter of the evolution of contemporary art in Bangladesh. The prerogative of a new, modern museum complex would be to first and foremost ensure that future generations are given the opportunity to study the artworks in their best preserved state.

1.7 Project Methodology

1.7.1 Data Collection

The most important aspect of the project is the site and its surroundings, especially because of the historic contribution of the river Bhramaputra to Zainul Abedin's artwork. Therefore, the first step to collecting data was to extensively photograph every aspect of the site: site contents, panoramic views, surroundings, etc. The next step will be to evaluate and record climatic conditions, including the general weather characteristics of Mymensingh, and to identify potential threats from the nearby river due to possible flooding.

A more subjective part of the data collection process should include gathering information by conversing with local people to determine their opinions regarding what kind of expectations they would have from a project such as this.

1.7.2 Study and Observation

Having spent some time in the site and in the areas surrounding it would provide a better understanding of the prevailing physical and social features, and to also grasp some idea of how an artist such as Zainul Abedin would have derived inspiration from this environment.

Another part of this phase would involve reading published articles and visiting websites with information on the works and life of Zainul Abedin to get a clear picture of his aspirations and vision for an art school which he had wished to build. This

could give a clear picture of how a new museum would complement his artistic style while fulfilling all the functional requirements of a structure of this type.

1.7.3 Conceptual Design

Based on Zainul Abedin's unique style of using bold strokes and lines (especially in his later works), an architectural concept should be derived which translates the nature of brush strokes on rough media into a three dimensional form to house the different functions required of the museum complex.

Various site forces and references yield lines which intersect at different angles and distances, these lines can be drawn out using various architectural elements in a three dimensional space to yield a museum master plan, which embodies the essence of the contemporary style of art which Zainul Abedin had shaped for the artistic heritage of Bangladesh.

1.7.4 Design Development Phase

The development phase for the proposed design should incorporate all ideas learned from various case studies, program and from thorough analysis of the site and its conditions to yield a properly functioning museum which fulfills all the conservational, educational, and recreational purposes to be expected from a complex such as this.

This phase would involve studies performed through sketching, model making, design drawing, and three dimensional computer modeling to ensure that the

proposed design is both aesthetically pleasing and functionally acceptable to a quality expectable from a fifth-year academic design project.

2 CHAPTER 2: SITE APPRAISAL

2.1 Site location and Area

The city of Mymensingh is a calm metropolis 115km from the capital city of Dhaka. The site for the Zainul Abedin Art museum is a parcel of land in a locality known as "Shaheb Quarter" in the outskirts of the city, directly overlooking the Bhramaputra River. The significance of this location is Zainul Abedin's personal affinity toward the Bhramaputra River, which was often a source of inspiration for his paintings. The total useable area of the site is approximately 1,72,000 square feet. The site is accessible from the city's road network via Park Road, which stretches from the nearby Agricultural University all the way up to the front of the site.

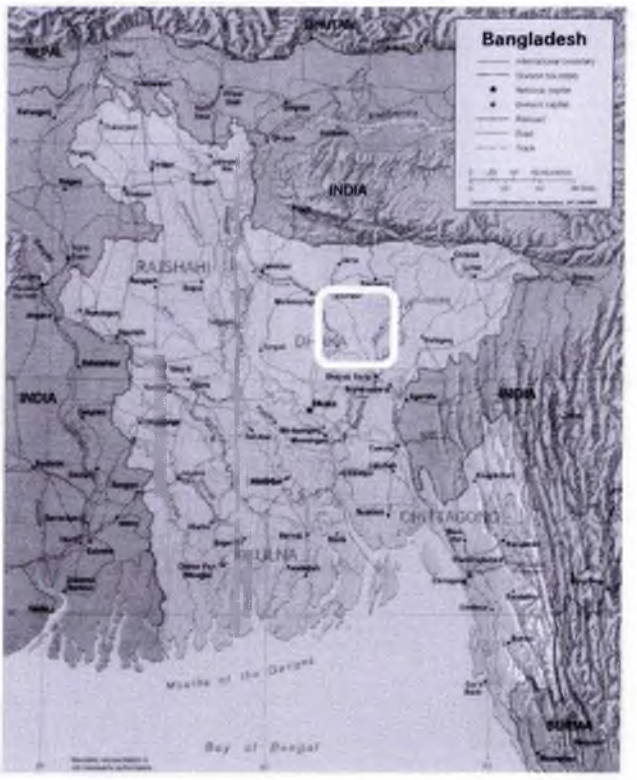


Figure 2 - Map of Bangladesh showing the Mymensingh Region
Source: Map of Bangladesh, 2005

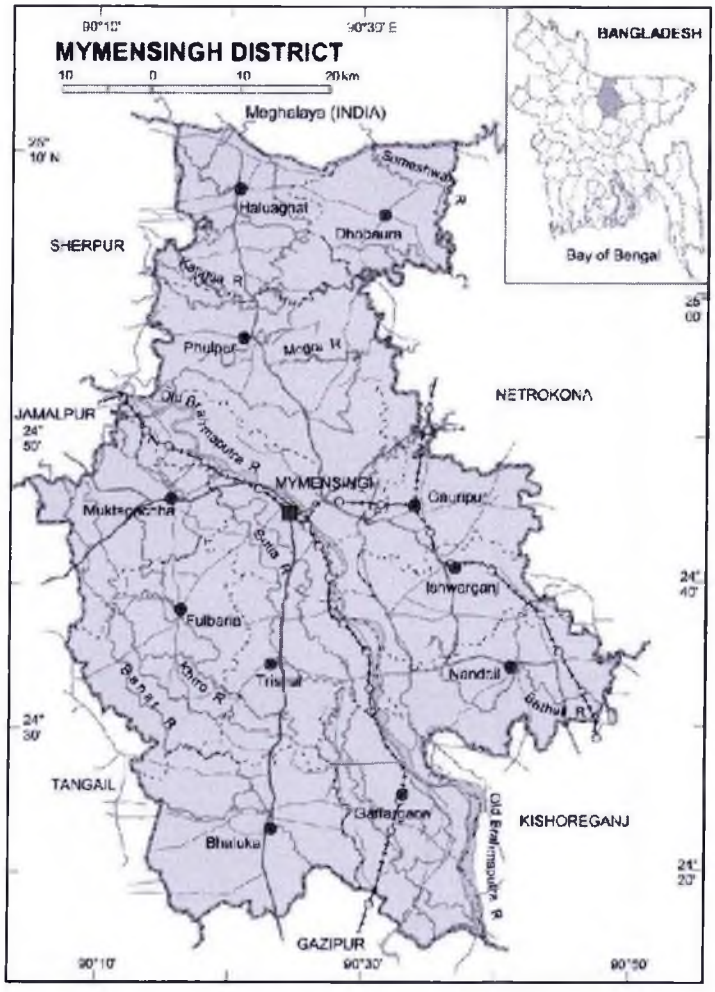


Figure 3 - District Map of Mymensingh
Source: Map of Bangladesh, 2005

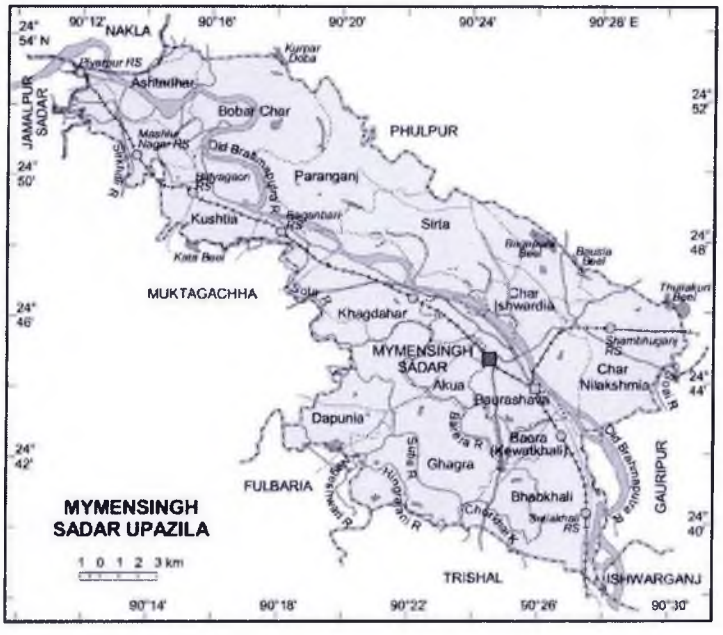


Figure 4 - Mymensingh *Sadar Upazila* Map
Source: Map of Bangladesh, 2005

2.2 Site Surroundings and Conditions

The existing museum building is located roughly at the center of the site with the remainder largely dominated by large green trees and vast expanses of grass cover. The north-western edge of the site follows the flow of the Bhramaputra river, thus offering a spectacular view of the river over this side; this edge also presents a paved pedestrian walkway stretching several kilometers along the shore of the river.

The southern edge presents an approach road about 20 feet wide, which is also the only vehicular access available currently to the museum. The south-western and north-eastern sides are flanked by other properties which are mostly covered in trees or grass. Another feature of the site is a roughly circular pond at the south-west corner of about 24,000 square feet.

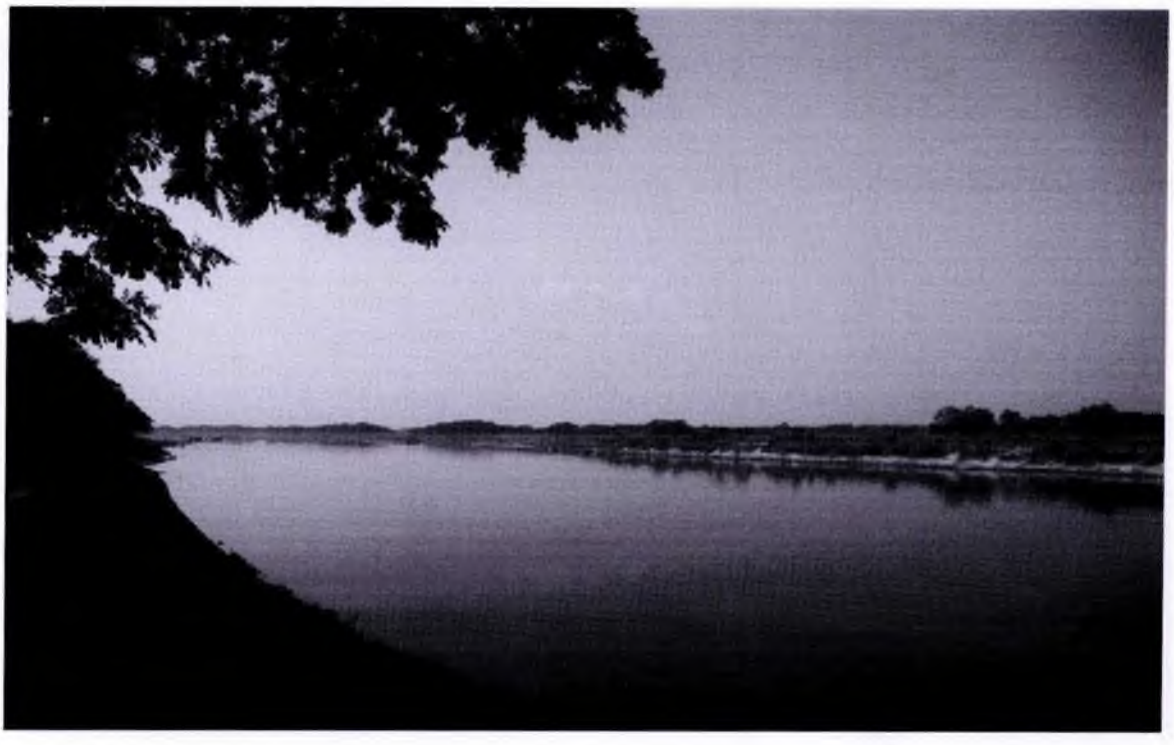


Figure 5 - View of the Bhramaputra River from the Embankment
Source: Zoha, Y.

Figure 6 - Commuter Boats along the Edge of the Embankment
Source: Zoha, Y.

Figure 7 - Social Activity near the River Bank
Source: Zoha, Y.

2.3 Site Climate

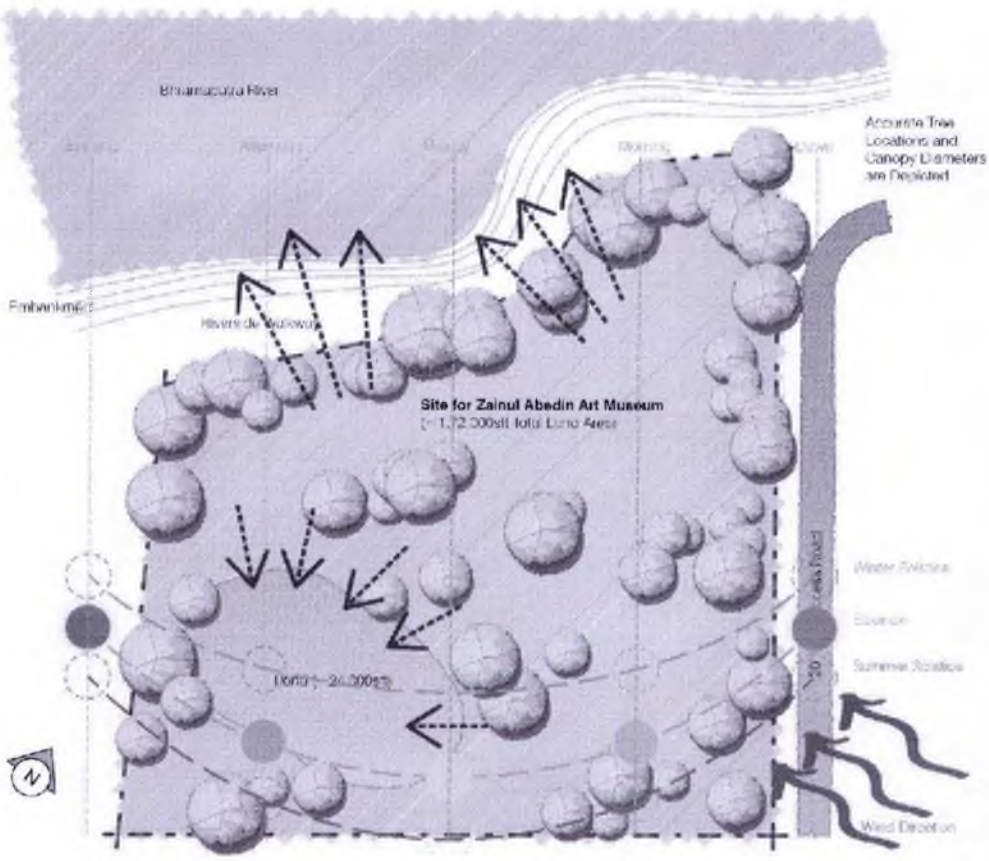


Figure 8 - Site Analysis Showing Solar and Wind Patterns and Views
Source: Zoha, Y.

The prevailing climatic conditions of the site can be attributed mainly to its close proximity to the Bhramaputra River and the large number of trees with huge canopies which virtually cover the entire site area – the result is a generally cool, shaded area all throughout, similar humidity to the rest of the region, and distinct breezes of wind flowing in from the side of the river.

General weather conditions in Mymensingh are slightly cooler than that of Dhaka, because of its being slightly closer to the Himalayas; as a result, winter temperatures

can be as low as 15°C during the season, which can be spread across November to February. Tourists are usually recommended to visit during this time.

The monsoon season starts from May to June and stretches into August; during this season rainfall is very heavy and temperatures range from 15°C to 20°C. Summer temperatures, especially during the April to May period can be as high as 40°C with extremely high humidity. This time can be particularly uncomfortable for visitors.

2.4 SWOT Analysis of the Site

2.4.1 Strengths

Strengths: Positive aspects of the site features which may influence the design and allow for strengthening of the design using existing resources.

- The site location is secluded, near the suburbs of Mymensingh meaning that noise from the bustling metropolis nearby is virtually inaudible.
- The distance from the city center, however, does not require a long journey to be made by visitors – a drive of about 10 minutes from the Mymensingh city center.
- The 115km road journey from Dhaka city takes between an hour and a half to three hours, depending on traffic conditions and vehicle used.
- Access to the site is unproblematic despite the narrow roads due to sparse local traffic, wider roads may be necessary in the future, but current conditions would allow accommodating them with ease.
- The presence of the river just adjacent to the site offers three great advantages: the most obvious of which is the spectacular view over the north-

east edge of the site, another is the intermittent bursts of cool breezes flowing into the site from its direction, and finally, the added advantage of allowing access to the site via waterway.

- A notable strength is the presence of massive trees and numerous shrubs and bushes which impart an attribute of natural elegance to the local site environment as well as contributing to an inherently cool and shaded site microclimate.

2.4.2 Weaknesses

Weaknesses: Negative aspects of the site features which may influence the design and require additional strengthening of existing conditions.

- Due to the considerable distance from the urban city center, the site lacks the advantage of some infrastructure facilities, such as municipal water and gas supply. Even though electricity is available, power supply is prone to the same blackouts and load shedding as the city itself.
- A potential weakness is the possibility of an inability to cope with increased road traffic if a new structure were erected without improving road access – since the city municipality would be responsible for this aspect of the master planning process, there is some possibility of failure in this component if not handled effectively.

2.4.3 Opportunities

Opportunities: Potentially positive aspects of the site features which will lend a constructive support to the project if resources are utilized effectively.

- Due to its location, considerable size and large number of natural resources available to this site, numerous opportunities arise in the way of architectural design, ranging from waterway access, as previously mentioned, to self power generation by using sustainable means.
- Since most of the area surrounding the site is government owned public space, a large area can be designated for use as public plazas to accommodate kiosks and other points of interest to serve visitors to the museum complex and the local people of Mymensingh.

2.4.4 Threats

Threats: Potentially negative aspects of the site features which may hinder or otherwise negatively affect several factors of the design.

- Despite the close proximity of the enormous river, there have been no recorded cases in recent history of the river banks being overwhelmed by massive floods. However, even if extensive rainfall could trigger flooding of the river, the man-made embankments would ensure that no significant erosion can cause damage to nearby structures.
- One possible threat could arise from the nature of the building itself – one which stands to house possibly priceless artwork. This could cause the complex to be targeted by thieves or robbers and because of surrounding areas not providing much opportunity for constant surveillance, museum security would always have to be on high alert to prevent such events.

3 CHAPTER 3: CONTEXTUAL ANALYSIS

3.1 Geography of Mymensingh

Mymensingh is situated between 24°02'03" and 25°25'56" north latitude and 89°39'00" and 91°15'35" east longitude. According to the latest report received (1971) from the director of Land Records and Survey, it comprises an area of 5,039.76 square miles (13,052.92 km^2).

There are no officially defined geographical limits for the city of Mymensingh, therefore the established city is actually larger than the municipal area. A physical marker for the boundaries of Mymensingh is the Bhramaputra river flowing along its north. Some other markers for the ends of the city include the beginning of the Agricultural University campus, the Medical College, army cantonment, and finally, Sultanabad – a township built for the followers of Aga Khan. A railway line connecting Dhaka with the Northern districts built between 1885 and 1899 divides Mymensingh city into two segments.

3.2 Historical and Social Background of the Area

Mymensingh is one of the sixteen oldest districts of Bangladesh, which was once constituted by the British East India Company in 1787 during colonial times. Being over 220 years old, Mymensingh presents a rich cultural and political history. Due to various patterns of settlement and colonization which has seen the city being inhabited by Hindus and Muslims, Mymensingh city had always been a center for secularism.

The Vidyamoyee Uccha Balika Bidyalaya and Muminunessa Women's College have played an important role in educating Bengali Muslim women, resulting in the graduation of several successful women who are important to the history of Bangladesh.

3.3 Historical Events

3.3.1 Visit by King Edward VII

In 1903, King Edward VII had made a visit to Mymensingh when the local "Zamindars" (landlords) had gone to great lengths to celebrate the occasion; particularly the Zamindar of Mymensingh, Babu Abonijanta Lahiri Chowdhury, who established a school with the name Edward Higher Education School in honor of the King's visit. This school started its academic activities after being recognized by Calcutta University on the first of January, 1903. Later the school came to be known as the Edward Institution. The school observed its centenary recently in 2003.

3.3.2 Visit by Rabindranath Tagore

Nobel Laureate poet Rabindranath Tagore paid a visit to Mymensingh for four days on 15th of May, 1926, arriving by train from Dhaka. He stayed at the Alexander Castle as a guest of Maharaja Shashikanta Acharya Chowdhury. The then regional administration or "pourashava" celebrated this occasion with several events including a civic reception for Tagore at the town hall.

The following day, Tagore paid a visit to the Brahmo Mander, which now houses the Mymensingh Law College. Afterward Tagore went to the Ananda Mohan College and

gave an elaborate lecture to its students and teachers. He had also paid a visit to the Vidyamoyee Uccha Balika Bidyalaya and City Collegiate School. The people of Mymensingh had generously donated funds for building the Visva-Bharati University, envisioned by the poet.

3.3.3 Liberation War

The liberation war of Bangladesh had started on 27th March, 1971, as people started to fight against Pakistani forces at the EPR camp, killing all the Pakistani soldiers. Despite the gruesome genocide in the nearby city of Dhaka on the 25th of March, Mymensingh had remained relatively calm until the 17th of April when Pakistani Air Force aircraft bombed and strafed on the innocent civilians of Shambhuganj. This even triggered in violence which ensued for seven continuous days, resulting in the death of over 30,000 Bihari people.

Mymensingh was freed from conflict as occupying Pakistani forces began to desert Mymensingh on the 10th of December followed by the taking over by the "Mukti Bahini" (Liberation Forces), on the 11th, five days before the declaration of victory by Bangladesh on the 16th of December, 1971.

3.4 Important Places and Structures

Some points of interest in Mymensingh include the Boro Kali Bari Mandir, a temple dedicated to the Hindu goddess Kali, to whom Hindus congregate here to pay respect to during the annual holy festival, "Kali Puja". The temple is a ten minute

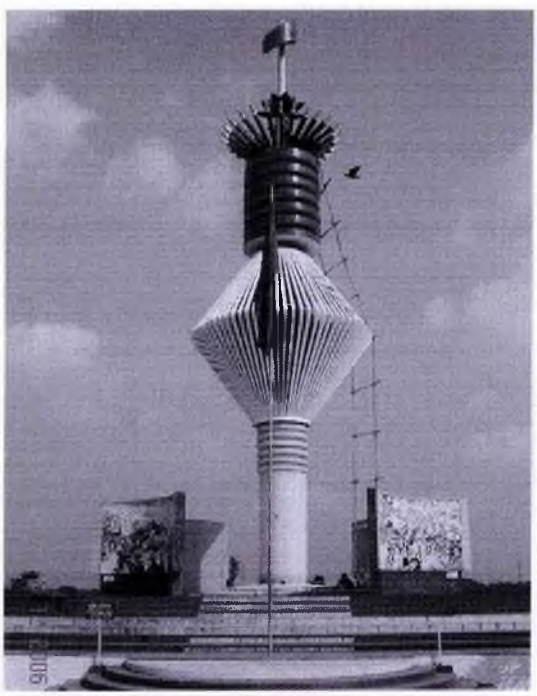
rickshaw ride from the city center and is an interesting destination for tourists who would like to experience the local culture.

Figure 9 - Representation of the Goddess *Kali* inside the *Boro Kali Bari Mandir* Temple
Source: Mymensingh Information Resource at Wikipedia, www.wikipedia.com

Another point of interest is the Mymensingh Rajbari (or Alexander Castle), which was built circa the 16th century for the royals residing in the area at the time; this building represents a rich history through the history of civilization in the region, including hosting the stay of Rabindranath Tagore in 1926.

Other significant points of interest include the Liberation War Monument in Shambuganj, the Boro Masjid and the sculpture at the Shoshi Lodge.

Figure 10 - Mymensingh Rajbari
Source: Mymensingh Information Resource at Wikipedia, www.wikipedia.com



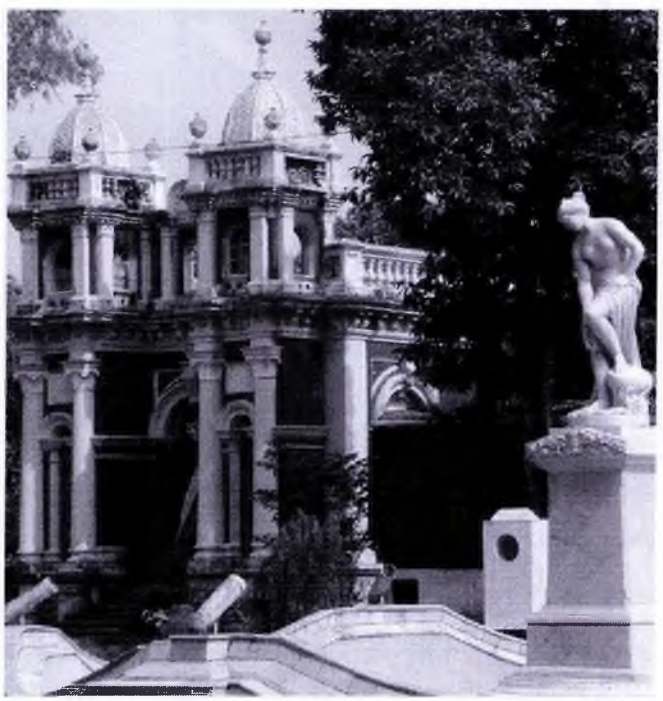


Figure 11 - Liberation War Monument

Figure 12 - Sculpture at Shoshi Lodge

Source: Mymensingh Information Resource at Wikipedia, www.wikipedia.com

3.5 Urban Profile

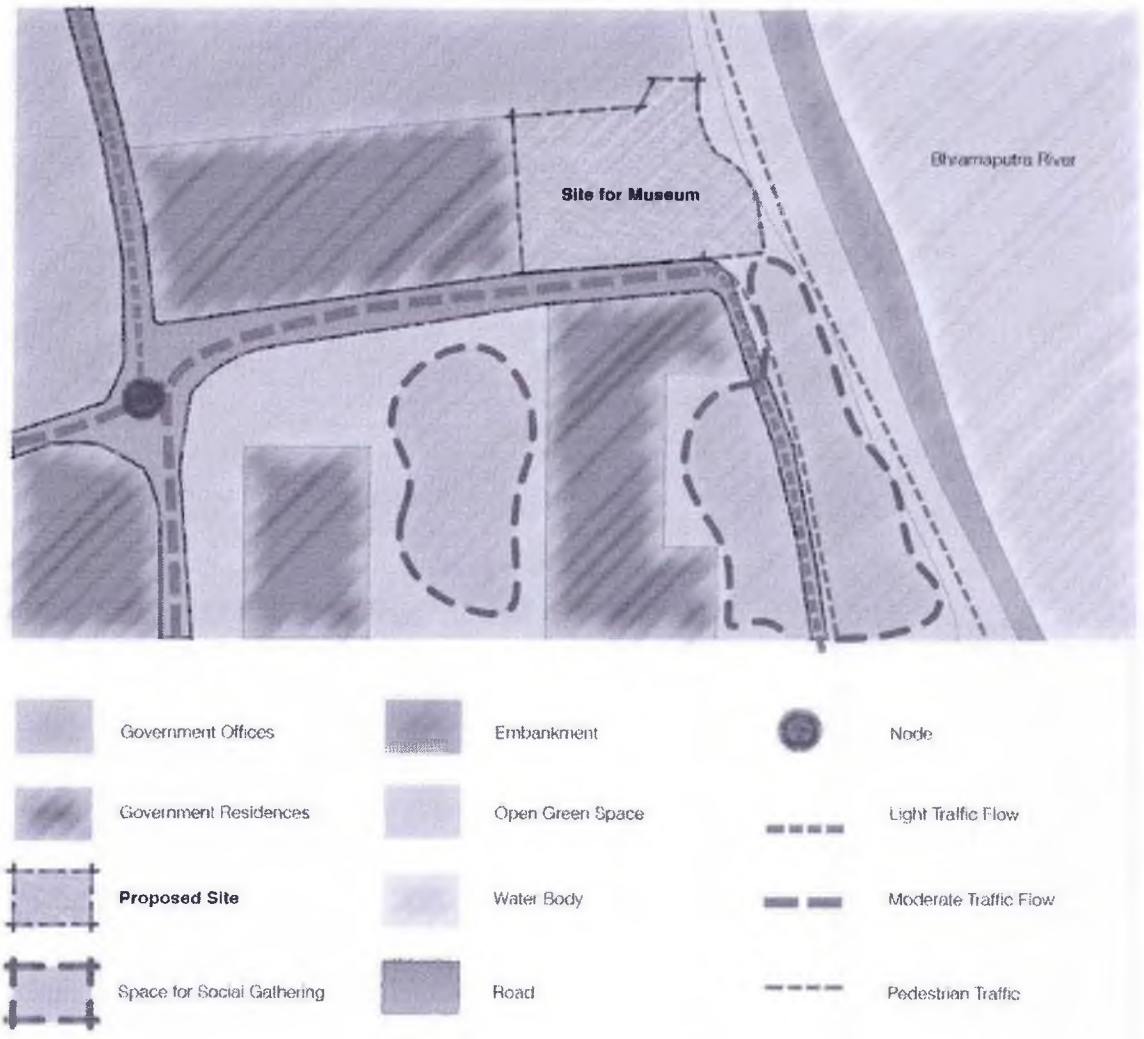


Figure 13 - Area Master Plan Showing Site
Source: Zoha, Y.

The town has not seen any of its expected developments since after the independence of Bangladesh in 1971, despite its close proximity to the capital city. Even though there have been extensive investments placed in garment production businesses throughout the country since the 1980s, Mymensingh has seen little in the way of this development.

As a result of this scenario, most of the structures in Mymensingh's skyline are dominated by single story residences with a few Spartan structures rising up to four stories. The limited number of commercial buildings is an indication that there are very few businesses established here, and there is a distinct lack of recreational facilities with the exception of a few restaurants.

Transportation through the city is mostly by rickshaw with a few buses and personal automobiles seen infrequently being driven through the narrow streets. Since the end of the 1990s, there has been some rise in the number of motorized three-wheelers, following the exodus of two-stroke automobiles from Dhaka city. Facilities such as hotels and shopping malls have been constructed just recently to provide a more accommodating environment to visitors from other towns or countries.

The other access to the urban area of Mymensingh city is through the use of railway which connects Mymensingh with the rest of Bangladesh via the local Bangladesh Railway train network.

4 CHAPTER 4: LITERATURE REVIEW

4.1 Art

Art is the deliberate process of arranging selected elements in a way that appeals to the senses or emotions. The subject matter of art encompasses a diverse range of human activities, creations, and models of expression, including any creative form such as music, literature, film, sculpture, and, of course, paintings. The meaning of art is explored in the branch of philosophy known as aesthetics.

The definition of art, however, had become rather problematic since the early 20th century. Richard Wollheim distinguished three approaches: the Realist, where aesthetic quality is an absolute value independent of any human view; the Objectivist, whereby it is also an absolute value, but is more dependent on general human experience; and the Relativist, whereby the aesthetic quality is not an absolute value but rather depends on, and varies with, the human experience of different humans. The object matter may be characterized by the intentions, or lack thereof, of its creator, regardless of its apparent purpose. A cup, which is ubiquitously used as a container for liquid, may be considered art, if intended solely as an ornament, while a painting may be deemed craft if mass-produced. (Buchholz ,Elke Linda; Art: A World History)

Traditionally, the term art had been used to describe any skill or mastery, this conception had changed during the Romantic period, when art had come to be seen as "a special faculty of the human mind to be classified with religion and science".

The intentions of art, however, has remained unchanged: which is to stimulate human thoughts and emotions.

Figure 14 - Vincent Van Gogh's "Starry Night"
Source: WikiMedia Commons, www.wikipedia.com

Figure 15 - African Chokwe Doll
Source: Collecting African Tribal Art Web Portal, sm76626.wordpress.com

Figure 16 - "The Birth of Venus" by Sandro Botichelli
Source: WikiMedia Commons, www.wikipedia.com

Figure 17 - Japanse Shishi Sculpture
Source: Art at The Walters Gallery, art.thewalters.org

4.1.1 History of Art

Paleontologists have uncovered sculptures, cave paintings, rock paintings, and petroglyphs from the upper Paleolithic era, dating back roughly 40,000 years – these may be some of the oldest forms of art created by mankind. However, the academic

acceptance of their precise meaning as "art" has been somewhat disputed, since little is known of the creators or their intentions. The oldest pieces of "art" in the world – tiny drilled snail shells about 75,000 years old – have been discovered in caves in South Africa. (Buchholz ,Elke Linda; Art: A World History)

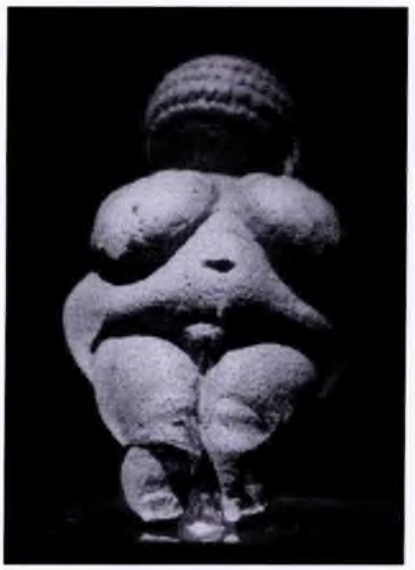


Figure 18 - Venus of Willendorf, c. 24,000 - 22,000 BCE
Source: WikiMedia Commons, www.wikipedia.com

Figure 19 - Cave Painting at Lascaux, France, c. 16,000 BCE
Source: Lascaux Cultural Portal, lascaux.culture.fr

Many great traditions in art have a foundation in the art of one of the great ancient civilizations, i.e. ancient Egypt, Mesopotamia, Persia, India, China, ancient Greece, Rome, as well as the Inca, Maya and Olmecs. Each of these centers of early human civilization had developed a unique and characteristic style in their art. It is because of their sizes and the durations of their existences that these early civilizations had more of their art works survive. It was also for this reason that later civilizations had adapted from their influences. Some of these early civilizations had provided insights into how early artists worked: for example, the ancient Greeks were the first to show

a veneration of the human physical form with the development of equivalent skills to show musculature, poise, beauty, and anatomically correct proportions.

Figure 20 - Ancient Egyptian Art
Source: AnimHut - Design history: Egyptian Art – Episode #4, www.animhut.com

Figure 21 - "Laocoon and his Sons", Ancient Greek Sculpture
Source: Three Pipe Problem, www.3pipe.net

The Byzantine and Medieval art of the Western Middle Ages focused on the expression of Biblical rather than the material truths – this resulted in the use of styles which shows the higher unseen glory of an unseen heavenly world. As such, gold was used in the background of paintings, or glass in mosaics or windows which also presented figures in idealized, patterned (flat) forms. Nevertheless, a classical realist tradition persisted in small Byzantine works, and realism steadily grew in the Art of catholic Europe. (Stokstad, Marilyn ; Art: A Brief History

Renaissance art had again shown a greatly increased preference to the realistic depiction to the material world with emphasis on the place of humans in it. This was reflected in the corporeality of the human body and the development of a systematic method of graphical perspective to depict recession in a three dimensional picture space.

Meanwhile, in the east, Islamic art's rejection of iconography led to emphasis on geometric patterns, calligraphy, and architecture. Further east, in the Orient and Indian subcontinent, religion dominated artistic styles and forms too. Art in India and Tibet showed emphasis on painted sculptures and dance with religious painting borrowing many conventions from sculpture and tending to bright contrasting colors with emphasis on outlines. Chinese art showed multiple implementations: jade carvings, bronze work, pottery (including the stunning terracotta army of Emperor Qin – an entire life-size army populous sculpted out of terracotta), poetry, calligraphy, music, painting, drama, fiction, etc. Chinese styles vary greatly from era to era and are traditionally named after the ruling dynasty. So, for example, Tang Dynasty paintings are monochromatic and sparse, emphasizing idealized landscapes, but Ming Dynasty paintings are busy, colorful, and focus on telling stories via setting and composition. Japan had named its styles after imperial dynasties as well and also saw much interplay between the styles of calligraphy and painting as with the Islamic artists. The medium of woodblock printing became prominent in Japan after the 17th century. (Stokstad, Marilyn ; Art: A Brief History

The western "Age of Enlightenment" in the 18th century brought on artistic depictions of physical and rational certainties of the clockwork universe, as well as politically revolutionary visions of a post-monarchist world, with examples such as Blake's portrayal of Newton as a divine geometer, or David's propagandistic paintings. This led to the Romantic rejections of this in favor of depictions of the emotional side and individuality of humans, as exemplified in the novels of Goethe. The late 19th century followed with a host of artistic movements, such as academic art, symbolism, impressionism and fauvism to name a few.

The 20th century in art presented in a narrative of infinite possibilities and the search for new standards, each being completely displaced in succession by the next. Therefore the parameters of impressionism, expressionism, fauvism, cubism, Dadaism, surrealism, etc. cannot be maintained past the time of their own invention. Increased global interaction during this time imposed an equivalent influence of other cultures into western art, such as Pablo Picasso being influenced by African sculpture. Japanese woodblock art (which, in itself, was influenced heavily by western Renaissance draftsmanship) had great influence on impressionism and subsequent developments. Similarly, the west had large impacts on the eastern art throughout the 19th and 20th centuries, with originally western ideals of communism and post-modernism exerting strong influence on artistic styles of the east.

4.1.2 Art Theories

In the 19th century, artists were mainly concerned with truth and beauty. The aesthetic theorist John Ruskin, who supported what he saw as the naturalism of J.M.W. Turner, saw art's role as the communication by artifice of an essential truth which could only be found in nature. (Stokstad, Marilyn ; Art: A Brief History

Modernism's arrival in the late 19th century led to a radical break in the conception of the function of art, followed once again in the late 20th century with the advent of postmodernism. Clement Greenberg's 1960 article "Modernist Painting" defines modern art as "the use of characteristic methods of a discipline to criticize the discipline itself". Greenberg originally applied this idea to the Abstract Expressionist movement and used it as a way to understand and justify flat (non-illusionistic) abstract painting. Realistic, naturalistic art had evaded the medium, using art to

conceal art; modernism used art to call attention to art. The limitations that constitute the medium of painting the flat surface, the shape of the support, and the properties of the pigment were treated by the Old Masters as negative factors that could be acknowledged only implicitly or indirectly. Under Modernism these same limitations came to be regarded as positive factors, and were acknowledged openly.

After Greenberg, several important art theorists emerged, such as Michael Fried, T. J. Clark, Rosalind Krauss, Linda Nochlin and Griselda Pollock among others. Though only originally intended as a way of understanding a specific set of artists, Greenberg's definition of modern art is important to many of the ideas of art within the various art movements of the 20th century and early 21st century.

Pop artists like Andy Warhol became both noteworthy and influential through work including and possibly critiquing popular culture, as well as the art world. Certain radical artists of the 1980s, 1990s, and 2000s expanded this technique of self-criticism beyond high art to all cultural image-making, including fashion images, comics, billboards and pornography.

4.1.3 Purpose of Art

Art in itself has had a great number of different "functions" throughout history. This essentially makes the purpose of art difficult to abstract into or quantify as a single concept. This does not imply that art is "vague", but that it has had many unique different reasons for being created; each purpose inherent to the circumstances under which a specific piece is created. Some of these functions of art are

categorized broadly into two groups: the non-motivated functions of art, and the motivated functions.

4.1.3.1 Non-motivated Functions of Art

The non-motivated purposes of art are those which are integral to being human, transcend the individual, or do not fulfill a specific external purpose. The Greek philosopher Aristotle once said, "Imitation, then, is one instinct of our nature." In this sense, art, as creativity, is something which humans must do by their very nature – so since no other species creates art – and is therefore an aspect of human which transcends utility. (Stokstad, Marilyn ; Art: A Brief History)

Basic human instinct for harmony, balance, rhythm

Art at this level is not an action or an object, but an internal appreciation of balance and harmony (beauty), and therefore an aspect of being human beyond utility.

Experience of the mysterious

Art provides us with a way to experience ourselves in relation to the universe. This experience may often come unmotivated, as we appreciate art, music or poetry.

Expression of the imagination

Art provide a means to express the imagination in non-grammatical ways that are not tied to the formality of spoken or written language. Unlike words, which come in sequences and each of which have a definite meaning, art provides a range of forms, symbols and ideas with meanings that are malleable.

Universal communication

Art allows the individual to express things toward the world as a whole. Earth artists often create art in remote locations that will never be experienced by another person. The practice of placing a cairn, or pile of stones at the top of a mountain, is an example. (This need not suggest a particular view of God, or religion.) Art created in this way is a form of communication between the individual and the world as a whole.

Ritualistic and symbolic functions

In many cultures, art is used in rituals, performances and dances as a decoration or symbol. While these often have no specific utilitarian (motivated) purpose, anthropologists know that they often serve a purpose at the level of meaning within a particular culture. This meaning is not furnished by any one individual, but is often the result of many generations of change, and of a cosmological relationship within the culture.

4.1.3.2 Motivated Functions of Art

The purposes of art which are motivated refer to intentional, conscious actions on the part of the artists or creator. These may be to bring about political change, to comment on an aspect of society, to convey a specific emotion or mood, to address personal psychology, to illustrate another discipline, to (with commercial arts) to sell a product, or simply as a form of communication. (Stokstad, Marilyn ; Art: A Brief History)

Communication

Art, at its simplest, is a form of communication. As most forms of communication have an intent or goal directed toward another individual, this is a motivated purpose. Illustrative arts, such as scientific illustration, are a form of art as communication. Maps are another example. However, the content need not be scientific. Emotions, moods and feelings are also communicated through art.

Art as entertainment

Art may seek to bring about a particular emotion or mood, for the purpose of relaxing or entertaining the viewer. This is often the function of the art industries of Motion Pictures and Video Games.

The Avant-garde

Art for political change: one of the defining functions of early twentieth century art has been to use visual images to bring about political change. The art movements which had this goal - Dadaism, Surrealism, Russian Constructivism, and Abstract Expressionism, among others - are collectively referred to as the avant-garde arts.

Art for psychological and healing purposes

Art is also used by art therapists, psychotherapists and clinical psychologists as art therapy. The Diagnostic Drawing Series, for example, is used to determine the personality and emotional functioning of a patient. The end product is not the principal goal in this case, but rather a process of healing, through creative acts, is sought. The resultant piece of artwork may also offer insight into the troubles

experienced by the subject and may suggest suitable approaches to be used in more conventional forms of psychiatric therapy.

Art for social inquiry, subversion and/or anarchy

While similar to art for political change, subversive or deconstructivist art may seek to question aspects of society without any specific political goal. In this case, the function of art may be simply to criticize some aspect of society. Graffiti art and other types of street art are graphics and images that are spray-painted or stenciled on publicly viewable walls, buildings, buses, trains, and bridges, usually without permission. Certain art forms, such as graffiti, may also be illegal when they break laws (in this case vandalism). (Stokstad, Marilyn ; Art: A Brief History)

Figure 22 - Street Art Graffiti on a Wall in San Francisco
Source: Awesome San Francisco Street Graffiti Blog, www.sfblogg.com

Art for propaganda or commercialism

Art is often utilized as a form of propaganda, and thus can be used to subtly influence popular conceptions or mood. In a similar way, art which seeks to sell a product also influences mood and emotion. In both cases, the purpose of art here is to subtly manipulate the viewer into a particular emotional or psychological response toward a particular idea or object.

4.1.4 Controversial Art

Over time, some artwork has shown the capability to stir controversy among critics and the public alike, especially pieces with strong social commentary which question or go against the norms of the time. Some may argue that it is because of the controversial element within these artworks that they gained the fame that they had.

Theodore Gericault's Raft of the Medusa' (c. 1820), was a social commentary on a current event, unprecedented at the time. Edouard Manet's "Le Déjeuner sur l'Herbe" (1863), was considered scandalous not because of the nude woman, but because she is seated next to men fully dressed in the clothing of the time, rather than in robes of the antique world. John Singer Sargent's "Madame Pierre Gautreau (Madam X)" (1884), caused a huge uproar over the reddish pink used to color the woman's ear lobe, considered far too suggestive and supposedly ruining the high-society model's reputation. (Stokstad, Marilyn ; Art: A Brief History

In the twentieth century, Pablo Picasso's Guernica (1937) used arresting cubist techniques and stark monochromatic oils, to depict the harrowing consequences of a

contemporary bombing of a small, ancient Basque town. Leon Golub's Interrogation III (1981), depicts a female nude, hooded detainee strapped to a chair, her legs open to reveal her sexual organs, surrounded by two tormentors dressed in everyday clothing. Andres Serrano's Piss Christ (1989) is a photograph of a crucifix, sacred to the Christian religion and representing Christ's sacrifice and final suffering, submerged in a glass of the artist's own urine. The resulting uproar led to comments in the United States Senate about public funding of the arts.

Figure 23 - "Guernica" by Pablo Picasso
Source: Guernica: Then and Now, http://calesser.blogs.wm.edu/about/

4.1.5 Art Forms, Genres, Media and Style

The creative arts are often divided into more specific categories that are related to their technique, or medium, such as decorative arts, plastic arts, performing arts, or literature. Unlike scientific fields, art is one of the few subjects that are academically organized according to technique. An artistic medium is the substance or material the artistic work is made from, and may also refers to the technique used. For example, paint is the medium used in painting, paper is a medium used in drawing.

An art form is the specific shape, or quality an artistic expression takes. The media used often influences the form. For example, the form of a sculpture must exist in space in three-dimensions, and respond to gravity. The constraints and limitations of a particular medium are thus called its formal qualities. To give another example, the formal qualities of painting are the canvas texture, color, and brush texture. The formal qualities of video games are non-linearity, interactivity and virtual presence. The form of a particular work of art is determined by both the formal qualities of the media, and the intentions of the artist. (Stokstad, Marilyn ; Art: A Brief History)

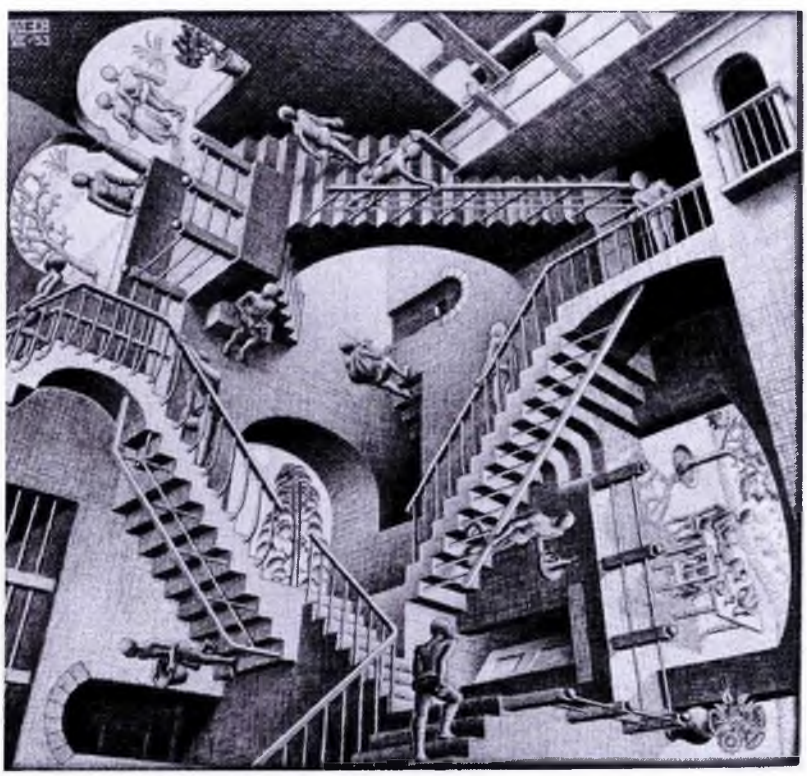


Figure 24 - M.C. Escher's "Relativity"
Source: WikiMedia Commons, www.wikipedia.com

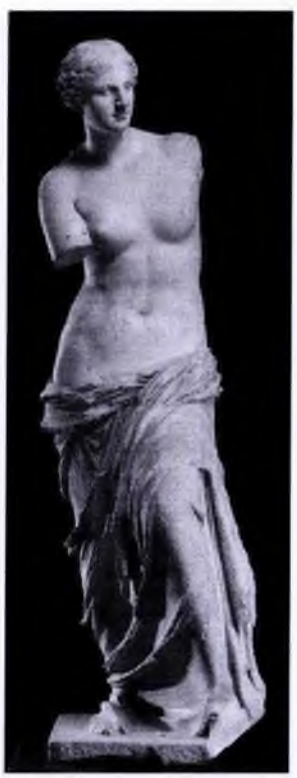


Figure 25 - Statue of Venus de Milo
Source: WikiMedia Commons, www.wikipedia.com

A genre is a set of conventions and styles within a particular media. For instance, well recognized genres in film are western, horror and romantic comedy. Genres in music include death metal and trip hop. Genres in painting include still life, and

pastoral landscape. A particular work of art may bend or combine genres but each genre has a recognizable group of conventions, clichés and tropes.

An artwork, artists, or movement's style is the distinctive method and form that art takes. Any loose brushy, dripped or poured abstract painting is called expressionistic. Often these styles are linked with a particular historical period, set of ideas, and particular artistic movement. So Jackson Pollock is called an Abstract Expressionist.

Because a particular style may have specific cultural meanings, it is important to be sensitive to differences in technique. Roy Lichtenstein's (1923-1997) paintings are not pointillist, despite his uses of dots, because they are not aligned with the original proponents of Pointillism. Lichtenstein used Ben-Day dots: they are evenly-spaced and create flat areas of color. These types of dots, used in halftone printing, were originally used in comic strips and newspapers to reproduce color. Lichtenstein thus uses the dots as a style to question the "high" art of painting with the "low" art of comics - to comment on class distinctions in culture. Lichtenstein is thus associated with the American Pop art movement (1960s). Pointillism is a technique in late Impressionism (1880s), developed especially by the artist Georges Seurat, that employs dots that are spaced in a way to create variation in color and depth in an attempt to paint images that were closer to the way we really see color. Both artists use dots, but the particular style and technique relates to the artistic movement these artists were a part of. (Stokstad, Marilyn ; Art: A Brief History)

4.1.6 Characteristics of Art

Art tends to facilitate intuitive rather than rational understanding, and is usually consciously created with this intention. Fine art intentionally serves no other purpose. As a result of this impetus, works of art are elusive, refractive to attempts at classification, because they can be appreciated in more than one way, and are often susceptible to many different interpretations. In the case of Gericault's Raft of the Medusa, special knowledge concerning the shipwreck that the painting depicts is not a prerequisite to appreciating it, but allows the appreciation of Gericault's political intentions in the piece. Even art that superficially depicts a mundane event or object, may invite reflection upon elevated themes. (Stokstad, Marilyn ; Art: A Brief History)

Traditionally, the highest achievements of art demonstrate a high level of ability or fluency within a medium. This characteristic might be considered a point of contention, since many modern artists (most notably, conceptual artists) do not themselves create the works they conceive, or do not even create the work in a conventional, demonstrative sense. Art has a transformative capacity; confers particularly appealing or aesthetically satisfying structures or forms upon an original set of unrelated, passive constituents. (Stokstad, Marilyn ; Art: A Brief History)

4.1.7 Communication of Art

Art is often intended to appeal and connect with human emotion. It can arouse aesthetic or moral feelings, and can be understood as a way of communicating these feelings. Artists express something so that their audience is aroused to some extent, but they do not have to do so consciously. Art explores what is commonly termed as the human condition; that is, essentially what it is to be human. Effective art often

brings about some new insight concerning the human condition either singly or en-mass, which is not necessarily always positive, or necessarily widens the boundaries of collective human ability. The degree of skill that the artist has, will affect their ability to trigger an emotional response and thereby provide new insights, the ability to manipulate them at will shows exemplary skill and determination.

4.1.8 Anti-Art

It is has been suggested in some quarters that the not making of art can constitute art. Or, more precisely, the suggestion is that the cessation of making art, can perhaps be considered a valid art form. This is obviously a minor opinion, and it is disputed. This notion has been associated with the term anti-art, and the suggestion which has been advanced is that the art movement associated with the artist's group known as the Situationists, actually made art by the very act of the cessation of making art. There is disagreement concerning the validity of this art "form". There is also an opinion articulated that takes a direct stance against anti-art, sometimes called anti-anti-art. (Stokstad, Marilyn ; Art: A Brief History)

4.2 Contemporary Art in Bangladesh

Bangladesh, which is today a distinct political entity, had once been a part of the Greater Bengal and shared similar cultural norms as those of the present day West Bengal. Before the partition of Bengal, artists from both sides of the division traveled freely and the art of pre-independence Bengal shows marked references to scenes and motifs specific to areas which are now in Bangladesh. Artists like Jogen Choudhuri who were born in areas which now fall into Bangladeshi land took

inspiration from Alpana drawings practiced widely in Bangladesh villages. Many other present day artists like Ganesh Paine and Prokash Karmakar had roots in Bangladesh. **(Khan)**

An important artist and a contemporary of Zainul Abedin's was Chittoprosad Bhattacharya. He was born in Naihati (in West Bengal) but had traveled widely in Eastern Bengal as a member of the Communist Party of undivided Bengal. He painted alongside Zainul Abedin on Bengal Famine, the 1943's naval revolt and the Tebhaga movement. Very little of Chittoprosad's paintings are restored today, apart from a collection which is restored at the Dhaka Museum. **(Islam N.)**

Figure 26 - Chittoprasad Bhatyacharya's "Untitled" Woodcut
Source: Waswo X Waswo Indian Print Making Collection, http://waswoxwaswoartcollection.blogspot.com

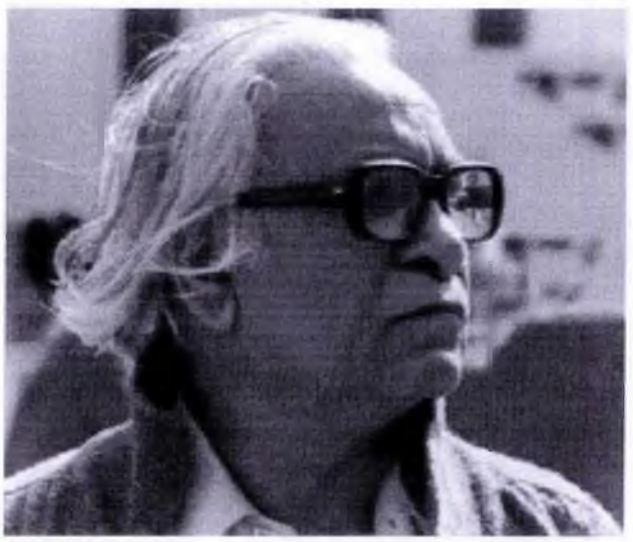


Figure 27 - Quamrul Hassan
Source: Banglapedia, www.banglapedia.org

Quamrul Hassan, rated second in importance to Zainul Abedin in Bangladesh's contemporary art history was also a political voice and had painted on important political issues affecting the country. S.M. Sultan another important artist was born in Narail and had the opportunity to come to Kolkata in the year 1938. But after the partition of Bengal, he was lost completely to the art world.

4.3 Shilpacharya Zainul Abedin

4.3.1 Historical Background of the Artist

Born in Mymensingh, Bangladesh in 1914, Zainul Abedin was deemed an artist of exceptional talent and international repute. One of his most significant contributions to the artistic community of Bangladesh was his pioneering role in the modern art movement in Bangladesh. This movement began with Zainul Abedin setting up the government Institute of Arts and Crafts (now known as the Institute of Fine Arts) in 1948 at Dhaka of which Zainul Abedin was the principal.

Figure 28 - Shilpacharya Zainul Abedin
Source: Zainul Abedin Information Portal at Wikipedia, www.wikipedia.com

Zainul Abedin was known for his exceptional leadership qualities in organizing artists and art activities in a setting with no recent history of institutional or professional art. Through the efforts of Zainul Abedin and some of his colleagues the tradition of modern art took shape in Bangladesh over a period of one decade. It was for these artistic and visionary qualities of Zainul Abedin that the tile of "Shilpacharya" had been bestowed upon him.

Growing up in Mymensingh, Zainul Abedin was accustomed to placid surroundings dominated by the river Brahmaputra. Growing up in this environment was a cause for open nature and the river significantly inspiring his works throughout his professional life. In the pursuit of art and culture, the young Zainul Abed joined the Calcutta Government Art School in 1933, where he learned for five years. In 1938, he had joined the faculty of the Art School and continued to paint. A series of watercolors which Zainul Abedin had done as a tribute to the inspirational Brahmaputra earned him the Governor's Gold Medal in an all-India exhibition in the same year. The new found recognition brought on by this accolade brought him into the limelight within his peers and gave him the confidence to create his own unique style of art. **(Jolrong, 2008)**

Figure 29 - Zainul Abedin at Work
Source: WikiMedia Commons, www.wikipedia.com

Zainul Abedin was an avid traveler who would travel the world and study different forms of art. He was somewhat dissatisfied with the Orientalist style which, to him, seemed heavily mannered and static, and the distinct limitations of the European academic style had led him towards a preference for realism. His fascination with the line remained however, and made versatile use of it in his representation of the everyday lives of people.

In 1947, after the partition of the Indian sub-continent, Zainul Abedin had settled in Dacca, the then capital of the eastern province of Pakistan. This city had no art institute nor featured any notable artistic activity. It was a year later in 1948 that Zainul Abedin, with the help of several of his colleagues, had established the Institute of Arts and Crafts – possibly his most significant contribution to the artistic community of Bangladesh. In 1951, he went on to attend the Slade school of Art in

London for a two year training course. After his return from London, Zainul Abedin's works presented a new style: the "Bengali" style of art: where folk forms, with their geometric, sometimes semi-abstract representations, the use of primary colors, and a deliberate lack of perspective were the prominent features.

The following decades had seen the evolution of his unique style in a series of paintings featuring varied subject matters, with several of his works from the sixties and seventies which were deemed his masterpieces. (Islam S. M.)

In 1975, Zainul Abedin set up a folk museum at Sonargaon, and a gallery in Mymensingh to house some of his works. He had also become actively involved in a movement to preserve the heritage of Bengal and reorient Bengal art to the roots of Bengali culture. He felt the futile, unimaginative copying of western techniques and styles that modern had art somehow began to inspire in a section of the local artists. During the course of his efforts, however, Zainul Abedin had fallen ill due to lung cancer. He died on the 28th of May, 1976, in Dhaka. (Wikipedia - Zainul Abedin, 2005)

4.3.2 Zainul Abedin's Works and Style of Art

When Zainul Abedin had joined the Calcutta Government Art School in 1933, he had adapted the British European academic style that the school diligently followed, and he continued in this laid-back, romantic style even after joining the faculty until in 1938 he had won the all-India exhibition award in 1938, as mentioned earlier. This encouraged him to develop a style of his own which was dominated mostly by bold

brush strokes and sharp lines. (Islam N.) Throughout his artistic career, Zainul Abedin had experimented with various media and subject matters as he learned from examples from all around the world and derived inspiration from a variety of circumstances.

The first iteration of his unique style was most famously showcased in 1943 when he drew a series of sketches ion the man-made famine that had spread throughout Bengal in the 1940s killing hundreds of thousands of people. The sketches were done in Chinese ink using brushes on cheap packing paper. This series, known as the "Famine Sketches" were haunting images of the cruelties and depravity inflicted by "the merchants of death". (Wikipedia - Zainul Abedin, 2005)

Figure 30 - Famine Sketch
Source: (Ahsan, 2006)

Apart from heralding his all-India fame, these sketches also helped Zainul Abedin find his rhythm in a realistic mode that highlighted human suffering, struggle and

protest. A watercolor sketch done in 1951, "The Rebel Crow" marks a high-point in that style. This particular brand of realism that combined social inquiry and protest with higher aesthetics had proved useful to him at later times, such as in 1969 and 1971 when he had produced some of his masterpieces.

Upon his return from the Slade School of Art in London around 1953, he had adapted a new style, as mentioned earlier, this new style was called a "Bengali" style, with some prominent examples such as "Two Women" (gouache, 1953), "Painna's Mother" (gouache, 1953), and "Woman" (watercolor, 1953). These examples present a drastic departure from his previous mode of realistic representation but still retain an emphasis on bold lines, integrating them with the use of primary colors and geometric shapes in a compressed perspective to reveal a unique, cubist-like representation of realistic subject matters. (Ahsan, 2006)

Figure 31 - Two Women
Source: (Ahsan, 2006)

Zainul Abedin's works throughout the fifties and sixties reflected his preference for realism, his aesthetic discipline, and his predilection for folk forms and primary colors. Later, however, he came to increasingly become aware of the limitations of folk art: its lack of dimensionality, its flat surfaces, an absence of the intricate relationship between light and shade, and the lack of dynamism. It is because of these limitations that Zainul Abedin had continued to paint draw inspirations from nature and peoples lifestyles, struggles and circumstances, but represented in a combination of styles that would be realistic in essence, but modernist in appearance. (Islam S. M.)

Figure 32 - After Fishing
Source: (Ahsan, 2006)

His idea of modernism was not confined to merely abstracted, non-representational styles but developed to a deeper understanding of the term "modernity" itself, in which social progress and individual dynamism are two leading components.

These works demonstrate the essential idea of modernism, in that it is the realization of the limits of the individual: hence, his works centralized around men and women who labor and struggle against all odds and realize their potentials. This was presented in the sixty five foot wide scroll painting entitled "Nabanna", celebrating the 1969 mass movement, or the thirty foot wide scroll painting, "Manpura", commemorating the hundreds of thousands who died in the devastating cyclone of 1970. During this course, Zainul Abedin had painted nature and the human scene (including the private moments of village women), but his predilections for speed, movement and an interactive space are evident in the paintings of the late sixties and seventies. (Ahsan, 2006)

Figure 33 – Makeup
Source: (Ahsan, 2006)

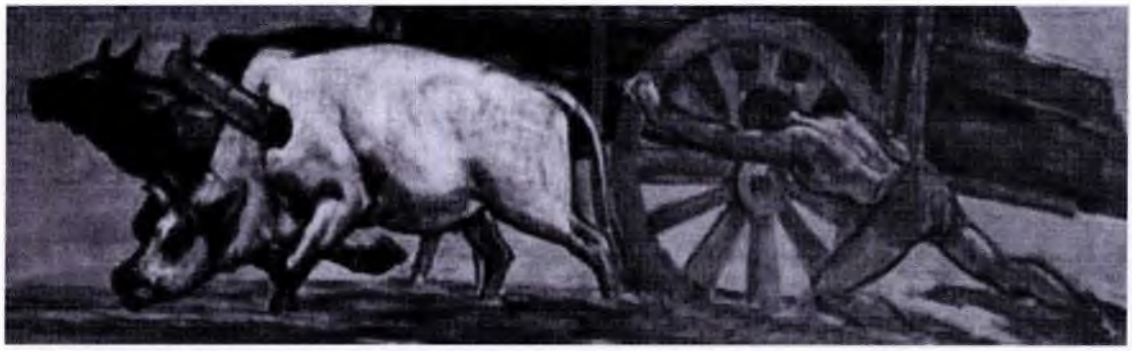


Figure 34 - "Sangram" or Struggle
Source: (Ahsan, 2006)

4.4 Museums

A museum is a building or institution which houses a collection of artifacts. Museums collect and care for objects of scientific, artistic, or historical importance and make them available for public viewing through exhibits that may be permanent or temporary. Most large museums are located in major cities throughout the world and more local ones exist in smaller cities, towns and even the countryside. Early museums began as the private collections of wealthy individuals, families or institutions of art and rare or curious natural objects and artifacts.

There are museums all over the world. The museums of ancient times, such as the Museum of Alexandria, would be equivalent to a modern graduate institute. The modern meaning of the word can be traced to the Museum of Pergamon in Anatolia, which was one of the earliest to have displayed artwork. (Marstine, Janet; New Museum Theory and Practice: An Introduction)

4.4.1 Purpose of Museums

Many museums offer programs and activities for a range of audiences, including adults, children, and families, as well as those for more specific professions.

Programs for the public may consist of lectures or tutorials by the museum faculty or field experts, films, musical or dance performances, and technology demonstrations. Many times, museums concentrate on the host region's culture.

Although most museums do not allow physical contact with the associated artifacts, there are some that are interactive and encourage a more hands-on approach. Modern trends in museology have broadened the range of subject matter and introduced many interactive exhibits, which give the public the opportunity to make choices and engage in activities that may vary the experience from person to person. With the advent of the internet, there are growing numbers of virtual exhibits, web versions of exhibits showing images and playing recorded sound.

Museums are usually open to the general public, sometimes charging an admission fee. Some museums are publicly funded and have free entrance, either permanently or on special days. Museums are usually not run for the purpose of making a profit, unlike private galleries which more often engage in the sale of objects. There are governmental museums, non-governmental or non-profit museums, and privately owned or family museums. Museums can be a reputable and generally trusted source of information about cultures and history.

Definitions include: "permanent institution in the service of society and of its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment, for the purposes of education, study, and enjoyment", by the

International Council of Museums; and "Museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artifacts and specimens, which they hold in trust for society," by the UK Museums Association. (Marstine, Janet; New Museum Theory and Practice: An Introduction)

4.4.2 Types of Museums

There are many types of museums, from very large collections in major cities, covering many of the categories below, to very small museums covering either a particular location in a general way, or a particular subject, such an individual notable person. Categories include: fine arts, applied arts, craft, archaeology, anthropology and ethnology, history, cultural history, military history, science, technology, children's museums, natural history, numismatics, botanical and zoological gardens and philately. Within these categories many museums specialize further, e.g. museums of modern art, local history, aviation history, agriculture or geology. A museum normally houses a core collection of important selected objects in its field. Objects are formally accessioned by being registered in the museum's collection with an artifact number and details recorded about their provenance. The persons in charge of the collection and of the exhibits are known as curators. (Marstine, Janet; New Museum Theory and Practice: An Introduction)

4.4.3 Museum Planning and Exhibition Design

The design of museums has evolved throughout history. Interpretive museums, as opposed to art museums, have missions reflecting curatorial guidance through the subject matter which now include content in the form of images, audio and visual

effects, and interactive exhibits. Museum creation begins with a museum plan, created through a museum planning process.

Some of these experiences have very few or no artifacts and do not necessarily call themselves museums; the Griffith Observatory in Los Angeles and the National Constitution Center in Philadelphia, being notable examples where there are few artifacts, but strong, memorable stories are told or information is interpreted. In contrast, the United States Holocaust Memorial Museum in Washington, D.C. uses many artifacts in their memorable exhibitions. Notably, despite their varying styles, the latter two were designed by Ralph Appelbaum Associates.

Most mid-size and large museums employ design staff for graphic and environmental design projects, including exhibitions. In addition to traditional 2D and 3D designers and architects, these staff departments may include audio-visual specialists, software designers, audience research and evaluation specialists, writers, editors, and preparators or art handlers. These staff specialists may also be charged with supervising contract design or production services. (Marstine, Janet; New Museum Theory and Practice: An Introduction)

4.5 Art Museums

An art gallery or art museum is a space for the exhibition of art, usually visual art. Museum can be public or private but what distinguishes a Museum is the ownership of a collection. Paintings are the most commonly displayed art objects; however, sculpture, photographs, illustrations, installation art and objects from the applied arts

may also be shown. Although primarily concerned with providing a space to show works of visual art, art galleries are sometimes used to host other artistic activities, such as music concerts or poetry readings.

4.5.1 Types of Galleries

Not all galleries are created equal. They differ not only in the obvious ways (as in what types of art they show), but in the way the gallery is set up and how the business is run.

4.5.1.1 Commercial Gallery

Commercial art galleries are professionally run businesses that derive their profit from sales of artwork, therefore take great care to select art and artists that they believe will sell and will enhance their gallery's reputation. This is basically why these are the most difficult to get into but also the most important to be in. They spend time and money cultivating collectors. If the artwork sells, the gallery makes a profit and the artist is then paid.

4.5.1.2 Co-op Gallery

A co-op gallery (also called artist-run initiatives) usually involves a group of artists who work together to show their work, promote the gallery, and sometimes offer community art classes or workshops. Some co-op galleries will even have studio space available for their members to create artwork on site. The co-op gallery will require a membership fee, which will go towards gallery maintenance, rent,

promotion, etc. Artist may have to pay a commission to the gallery as well, upon the sale of artist's artwork.

The main difference between a vanity gallery and a co-op gallery is that the artists in the co-op are invested in the running of the gallery. This can also be a great way to get experience with shows, to meet other artists, critics, curators, etc. Artist will most likely want to be as involved as he can, so being physically close to the gallery will be important.

4.5.1.3 Rental Gallery

Although they might not have the same prestige that a commercial gallery or an alternative space might have, they are definitely a viable place to show the art works, especially if artist is just starting out and need experience showing. Most rental galleries charge a flat rate for a specific period of time, say 20,000 TK for a week. It will most likely be a "do it yourself" type of operation. Artist hangs the artwork, designs the invitations, schedules and host the reception, and sometimes he might even has to staff the gallery.

This of course is an expensive proposition for a new artist since rental fees can be in the thousands and there is no guarantee that artist will recoup the expense in sales. To offset his investment, consider doing it with a group of artists who can share in the costs as well as the work of mounting a show.

4.5.1.4 Vanity Galleries

Vanity galleries are an offshoot of cooperative galleries (also called artist-run initiatives). A vanity gallery is an art gallery that charges artists fees in order to exhibit their work and makes most of its money from artists rather than from sales to the public. Some vanity galleries charge a lump sum to arrange an exhibition, while others ask artists to pay regular membership fees and then promise to organize an exhibition with a certain period, others charge for a specified wall space. Galleries which ask artists to contribute to expenses, e.g. for marketing and advertising, can also fall into this same category.

There is much debate as to the value of vanity galleries. For the most part, vanity galleries don't promote and develop relationships with artists like reputable commercial galleries do. They are not selective because they don't have to be. And it won't necessarily impress a gallery director if he or she sees it on artists resume and many professional critics and reviewers tend to avoid them. However, some believe if artists choose a vanity gallery that does promote its artists in some way and has a strong presence in the art community can be of benefit to new artists looking a venue where their artwork can gain some exposure and potentially sell to the public. (Marstine, Janet; New Museum Theory and Practice: An Introduction)

4.6 Museum Lighting Design

4.6.1 Artificial Lighting

Every museum is engaged in a continuing war against the damaging effects of light. The war begins as light rays (photons) cut through atoms of fragile color molecules

and organic materials. The casualties are rare historic documents, sensitive textiles, fragile watercolors, fragile printed materials and organically dyed native arts.

Visible light along with invisible ultraviolet and infrared radiation shoot deep into materials, past and through the open spaces in and between many thousands of atoms. "Reflective" materials need to be 50,000 atoms thick to reflect just half of the photons of a beam of light. Even then, they only reflect photons of certain colors of light. The rest of the photons in the light beam bore into the material to seek out and cut the atomic bonds that hold the molecules together. The more light, the more photons. The more photons, the more damage.

The graph below shows the complete spectral output of a quartz halogen track light at 3000°K. Most of the energy (95%) is outside the visible spectrum. About 1% is ultraviolet, below 380 nm. Roughly 94% is infrared, above 770 nm. None of that energy is visible to a human or a museum light meter. (Miller & Miller)

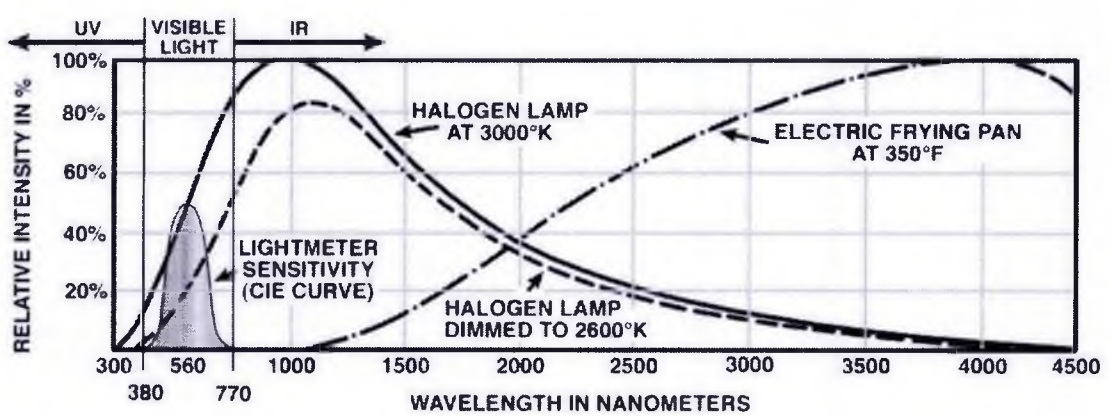
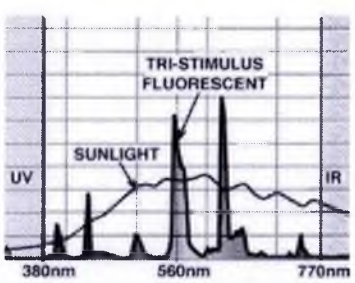


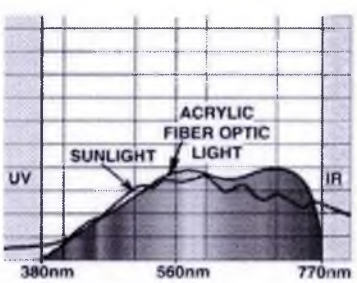
Figure 35 - CIE curve of a quartz halogen track light at 3000°K
Source: (Miller & Miller)

A light meter is filtered to the sensitivity of the human eye, the CIE curve. As we can see from this curve, eyes (and light meters) see none of the energy outside the visible spectrum (and then only about half of the energy actually present). Take the filter out of our light meter and we will find that a measured ten foot-candles of quartz halogen light is actually somewhere above 200 equivalent foot-candles of full spectrum radiation (ultraviolet through infrared). Because No UVIR is limited to a spectral output matching the CIE curve, ten foot-candles of No UVIR lighting remains ten foot-candles.

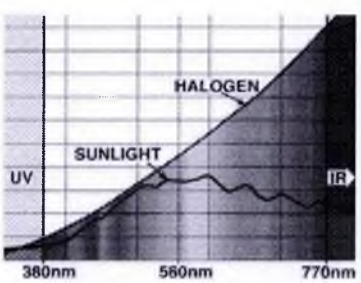
The dashed line in the graph shows the same lamp dimmed to 50% intensity in the visible spectrum. The actual result is to shift the peak of the curve toward the infrared, lowering the total energy hitting the exhibit by just 10%. The light meter shows half the light, but the artifacts still experience 90% of the damage. This is why dimming incandescent track lighting is not an effective preservation tool.



Fluorescent spectral output shows both missing and over represented colors



No UVIR's spectral output closely matches sunlight (with 0 UV or IR)



Halogen has all colors present, but with a poor color balance (4 times the red of sun light)

Figure 36 - Comparison between fluorescent, fiber optic and halogen lights.
Source: (Miller & Miller)

On this comparison above we can see that "No UVIR fiber optic" systems produce a full, balanced color spectrum very close to that of sunlight, but with No UV or IR.

Cool-white fluorescent No UVIR fiber optic lighting Halogen MR-16

Figure 37 - Photographs of three different kind of lighting systems
Source: (Miller & Miller)

The three photographs on the left were made under identical conditions; the same teacup at exactly the same light level on the same roll of film. Only the light sources changed. On this side-by-side comparison we can see the extreme blue emphasis of fluorescent lighting and the red tint of halogen lighting. (Miller & Miller)

4.6.2 Day lighting

Wherever it is possible most museum visitors prefer to see objects which are displayed under daylight. The daylight may be provided by side windows or roof lights, be highly controlled or partially controlled. The impression of daylight in a space is much more noticeable from side windows than roof lights but is more difficult to control to avoid glare and poor viewing conditions. Highly controlled roof lights, however, may cease to give an impression of daylight and it must be questioned whether they are simply worth the cost. An evaluation of energy payback needs to be made.

Day lighting and, indeed, artificial lighting provide specific conservation problems in Museums. In order to see the objects we need light but that light is in itself

destroying sensitive objects. By 'light', we do not simply mean visible light, but ultra-violet light. Controlling the ultra-violet light is somewhat easier because it is not contributing to vision so ultra-violet filters can be used. However, most ultra-violet films used on windows, for instance, will become less effective with time. Therefore, continuous monitoring of ultra-violet light should take place wherever sensitive objects are displayed within museums.

4.6.2.1 Conservation Design Standards

It is common to divide objects into three categories regarding sensitivity to light; insensitive, medium sensitive and sensitive. The full appreciation of color is not achieved until about 250 lux. Some highly controlled day lighting systems (normally roof lights) exist to maintain 200 lux on the objects, but the lux-hour allows a more passive approach to maintaining conservation requirements. Some commentators have suggested that very sensitive objects, which may have to be lit at 10 lux or below (e.g. the Leonardo cartoon in London's National Gallery), are viewed at higher levels, but with a restricted viewing time. Where objects are insensitive (e.g. stone statues that are not treated with light sensitive preservative), then higher levels of light may be used.

	Maximum Illuminance (Lux)		Maximum accumulated yearly exposure (Lux-hours)	
	UK	US	UK	US
Sensitive objects (e.g. watercolors)	50	50	150000	50000
Medium sensitive objects (e.g. oil paintings)	200	200	600000	480000

4.6.2.2 Design Considerations

Vertical hanging space, particularly for paintings, is at a premium in museums. Hence it is often found that vertical windows have been blocked up or covered in museums that have been created from refurbished buildings of other types. However, it is not simply the hanging space that causes problems with vertical windows. Objects displayed against windows are displayed against a high luminance (very bright) background, increasing the adaptation of the eye so that much detail and color in the object is lost. (Society of Light and Lighting, 2002)

4.6.2.3 Rooms for Sensitive Objects

With lower levels of light, the use of a dark background reduces the adaptation level of the eye, thereby increasing the apparent brightness of the viewed object. For instance, in the 'Turner Watercolor' room at the Tate Britain Gallery in London, where the vertical illuminance on the paintings is maintained at 50 lux, a low reflectance maroon background is used.

The choice of background reflectance and, indeed, color plays an important role in the visibility of the objects. Backgrounds of high chrome (strong color intensity) impose their own color on a room. Photographs may exaggerate this effect, as the eye searches for a 'white balance' within a room in an effect sometimes known as 'color constancy'. Neutral surfaces (except white) tend to produce a gloomy, cold appearance. The best compromise is usually a low chrome background with a reflectance chosen according to the necessity to reduce the adaptation level of the eye (20%-60%). (Society of Light and Lighting, 2002)

4.6.2.4 Approaches to Lighting Control

The overall light exposure permitted on sensitive objects is the sum of the daylight and artificial light. With highly sensitive objects it is almost impossible to use daylight. Control of artificial light to levels below 50 lux precludes any daylight appearance. Where such objects are being displayed, in any large museum areas should be provided where a view out is possible. These rooms may contain insensitive objects or simply seating for the visitors. Such an approach helps reduce the incidence of 'museum fatigue'.

With medium sensitivity objects, a highly controlled approach may be adopted, requiring automatic shutter control of the louvers that control the daylight and artificial light. Such systems are extremely expensive, both in initial cost and maintenance. A more passive approach might be adopted where daylight might provide between 40%-70% of the total yearly lighting demand. Such a system would have differential louver controls on the day lighting for summer and winter, being relatively more transparent in winter than summer.

4.6.2.5 Glass Display Cabinets

High brightness sources, be they artificial light or daylight, may produce reflections in the glass of display cabinets, thus affecting the visibility of objects within the cabinet. They may be particularly noticeable if the objects within the cabinet are poorly lit and it contains no additional light source. The perception of the veiling reflection depends on the balance between the brightness of the reflection and the brightness of the object. The issue is quite complex, however. A low reflectance surface in the background to the cabinet can reduce the adaptation level of the eye and, in theory,

improve the visibility of the object. However, reducing the adaptation level of the eye may make the veiling reflection visible.

4.6.2.6 Surface Reflectance

It has been remarked that the surface reflectance can have a major impact on the level of illuminance in the room, for a given amount of light flux entering. The impact may be judged by Sumpner's formula, which gives the mean surface illuminance as F/A (1-R), where F is the amount of light flux entering the room, A is the surface area of the room and R is the reflectance coefficient. Changing the mean reflectance from 0.4 to 0.6 increases the illuminance by nearly 67%; and from 0.4 to 0.7 by 100%. In terms of the luminance of the surfaces, increasing by 0.4 to 0.6 increases the luminance by 100% and by 0.4 to 0.7 by 175%. A room with an average reflectance of 0.4 might be considered a mid reflectance room, where a 0.7 reflectance room would have white surfaces and a light-colored floor. The surface color and reflectance is an integral part of the lighting scheme. (Society of Light and Lighting, 2002)

4.6.2.7 Contrast

Diffuse illumination, where light comes equally from all directions, will allow an object to be seen, but will do little to reveal the form or texture because of the lack of shadows. The gradation of the reflected light (brightness) over the surface of an object reveals its 3-D nature, while texture may be depressed or expressed by applying light at an appropriate angle. The degree of diffusivity in a space can be expressed as the vector/scalar ratio, where values between 1.2 and 1.8 give

satisfactory modeling of faces. Where an 'unnatural' effect is required, specified on a scale ranging from subtle to dramatic, the following table acts as a guide.

Display Effect	Objective Display Illuminance ratio	Subjective Apparent Brightness ratio
Subtle	5 to 1	2.5 to 1
Moderate	15 to 1	5 to 1
Strong	30 to 1	7 to 1
Dramatic	50 to 1	10 to 1

4.7 Museum Environment

Relative humidity and temperature are essential components of a comfortable working environment. However, there can be some conflict between the needs of people and the requirements for the care of collections. Relative humidity (RH) is the amount of water vapor contained in the air at a particular temperature compared with the total amount of water vapor the air can contain at that temperature. Although large groups of people are signs of successful museums, galleries and libraries, they may have an adverse effect on the museum's microclimate. The effect they have on the local climate depends on:

- How many visitors there are and whether they arrive individually or in groups;
- Whether they have wet or damp umbrellas and coats;
- How long they stay; and
- Their ages (school groups are potentially more disruptive to a controlled environment than adult tour groups or individuals).

Air-conditioning is the most obvious, but not necessarily the best, method of controlling temperature and relative humidity. The method involves taking air either fresh air from the outside or recycled air from the inside and changing its temperature and moisture content. There are two basic types of cooling air-conditioners available.

An evaporative air-conditioner works by passing air over a moist surface and increasing the moisture content of the air, raising the relative humidity. This type of air-conditioner should not be used unless there is a dehumidifier to remove the moisture from the cool air.

Cooling coil air-conditioners work on the refrigerator principle of keeping the air cool and dry. This type of air-conditioner should be used with caution, and preferably with a humidifier to add moisture to the air. Monitoring the effectiveness of such equipment is crucial.

Some equipment to control the humidity and temperature of the museum gallery are:

- Dehumidifier
- Humidifier
- Thermo hygrograph
- Whirling hygrometer
- Dial hygrometer

Silica gel is one of the solutions to high-humidity environment problems. The amount required can range from approximately 7kg/m3 to about 20kg/m3, depending on conditions. Silica gel, however, needs to be reconditioned since it absorbs water and

retains it. The silica gel has to be removed from the case and reconditioned, usually by heating in an oven—and then put back in the case. Two batches of silica gel can be used alternatively with one batch being oven heated while the other is in service.

5 CHAPTER 5: CASE STUDIES

5.1 Kunsthaal Rotterdam, Rotterdam; Rem Koolhaus

5.1.1 Project Information

- Project Title: Kunsthal Rotterdam
- Location: Rotterdam, The Netherlands
- Architect: Rem Koolhaus
- Building type: Contemporary Art Museum
- Area: 36,684sft

5.1.2 Project Details

Early last century, Eric Mendelsohn described Holland's two great cities in the following terms: "Analytic Rotterdam refuses vision; visionary Amsterdam does not understand objectivity", However, in the conception and realization of the city's Boyman Museums Park, Rotterdam has embraced a startlingly bold vision of the city's cultural future that highlights the museum's strategic significance in the battle for civic identity and supremacy.

The Park evolved in the late 1980s around A. van der Steur's Boymanvan Beuningen Museum, with Koolhaus's Kunsthal – or museum for contemporary art – designed to terminate the site at its southern end. This location was certainly inauspicious, being hemmed in by the tramlines and a dual carriage way to the south, and sliced in two by a parallel service road. The six meter change in level across the site from the high road side down to the sunken Park side was also a constraining factor, although one which eventually served Koolhaas and OMA well,

allowing them to produce interior spaces of considerable drama and tension. In resolving this level change, Koolhaas decided that the building should be entered at a highway level via a ramp that straddles the dip of the embankment below. From here, the architect took "the concept of the building as a continuous circuit", with one ramp leading upwards to a gallery space overlooking the busy road, and another heading downwards to a more tranquil exhibition space which fronts on to the Museum Park. The main entrance was then articulated where the two ramps cross.

The split personality of the site is mirrored in the contradiction between inside and out, with the refined diaphanous exterior box betraying little of the spatial gymnastics within. Only the massive orange steel I-beam "architrave" and tree-trunk handrail give any clue as to the architectural excitement of the interior.

Figure 38 - Front Facade of the Building facing the Highway
Source: World Contemporary Architecture: Museums

Figure 39 - Raked auditorium and café-restaurant to the south-west elevation
Source: World Contemporary Architecture: Museums

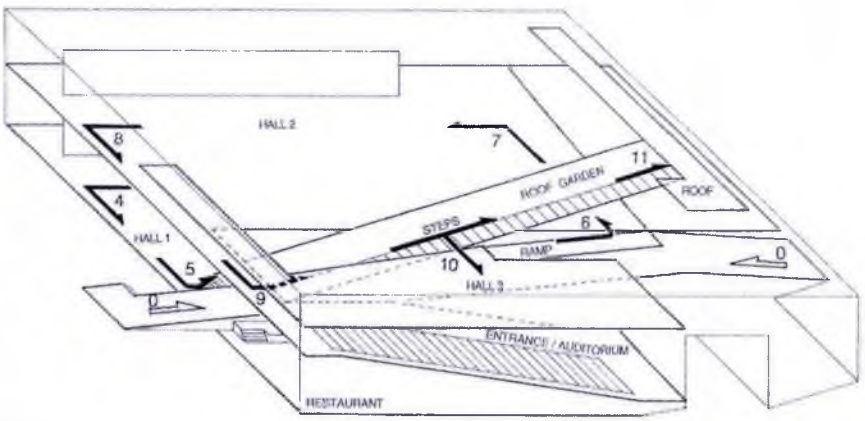


Figure 40 - Schematic isometric showing circulation routes through the building and the distribution of accommodation; *Source: World Contemporary Architecture: Museums*

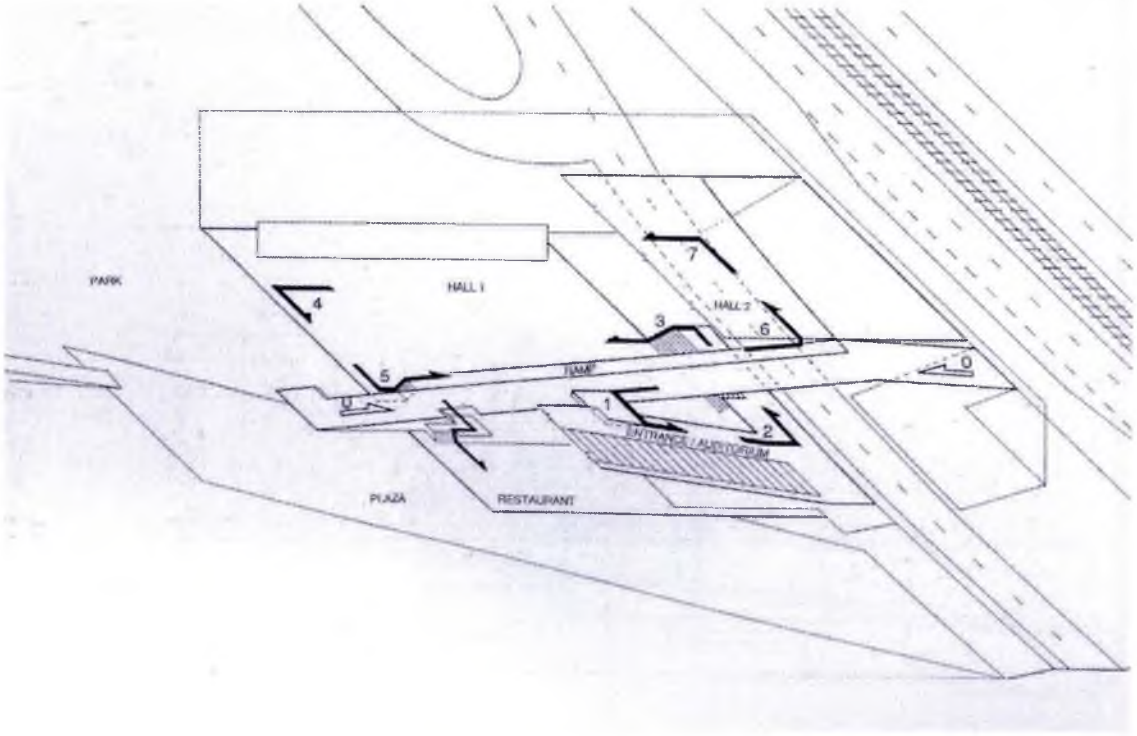


Figure 41 - Site Plan Isometric
Source: World Contemporary Architecture: Museums

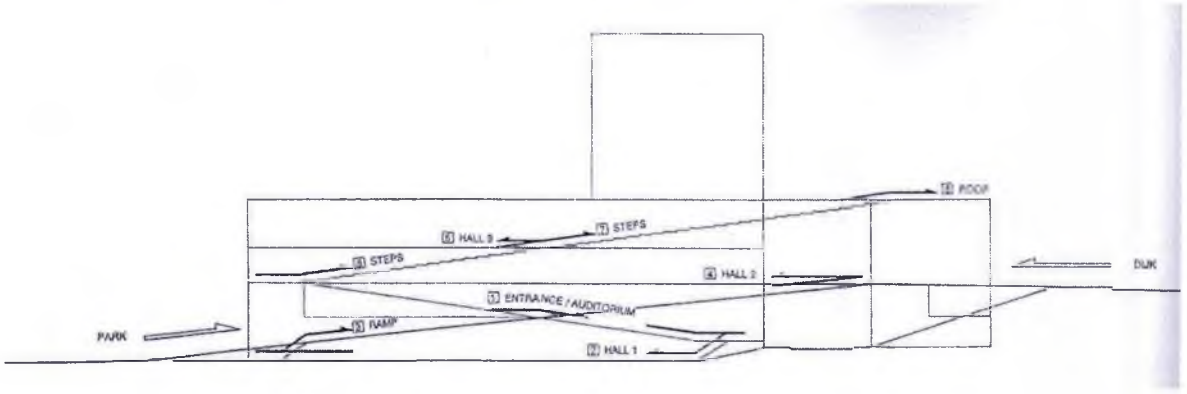


Figure 42 - Diagrammatic section showing the rise in level across the site from the Museums Park, up to the adjacent dual carriageway; *Source: World Contemporary Architecture: Museums*

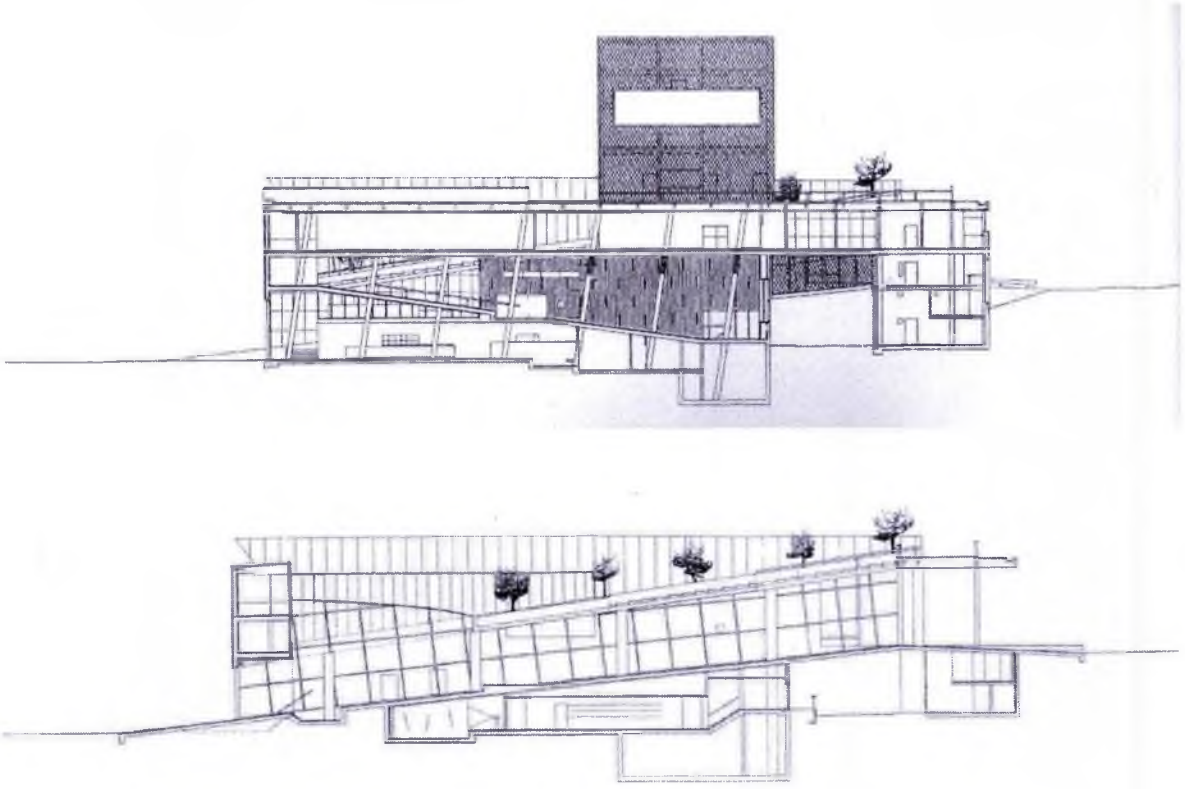


Figure 43 - Sections through the building
Source: World Contemporary Architecture: Museums

Figure 44 - West side of the Kunsthaal Rotterdam's terrace as seen from Museums Park
Source: World Contemporary Architecture, Museums

Figure 45 - Koolhaus's use of lighting to enliven the underside of the café-restaurant's concrete roof plane; *Source: World Contemporary Architecture: Museums*

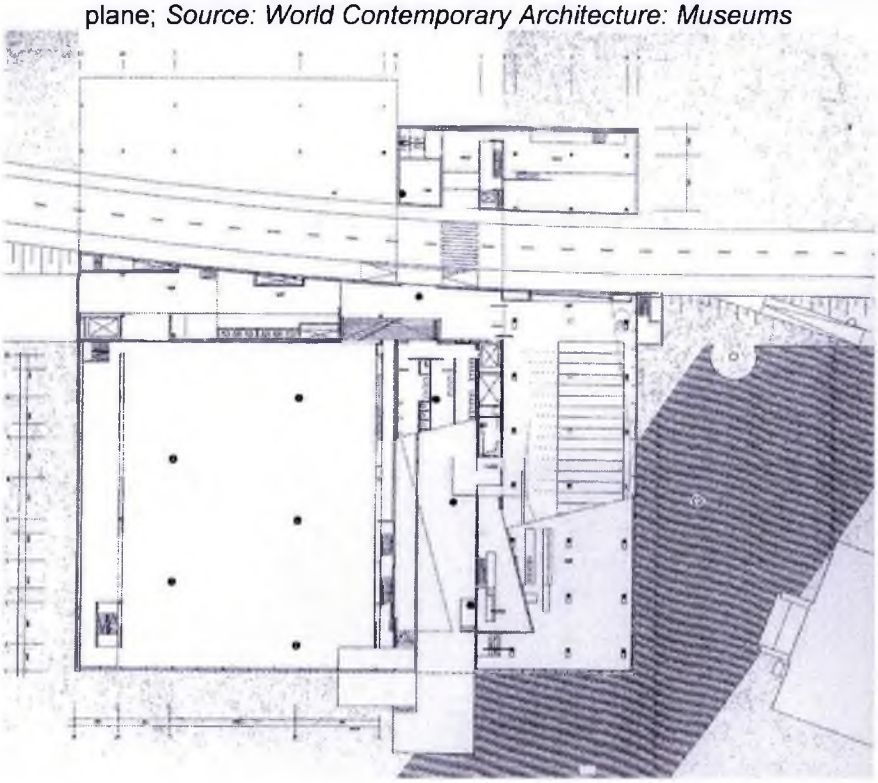


Figure 46 - Plan of the upper road level
Source: World Contemporary Architecture: Museums

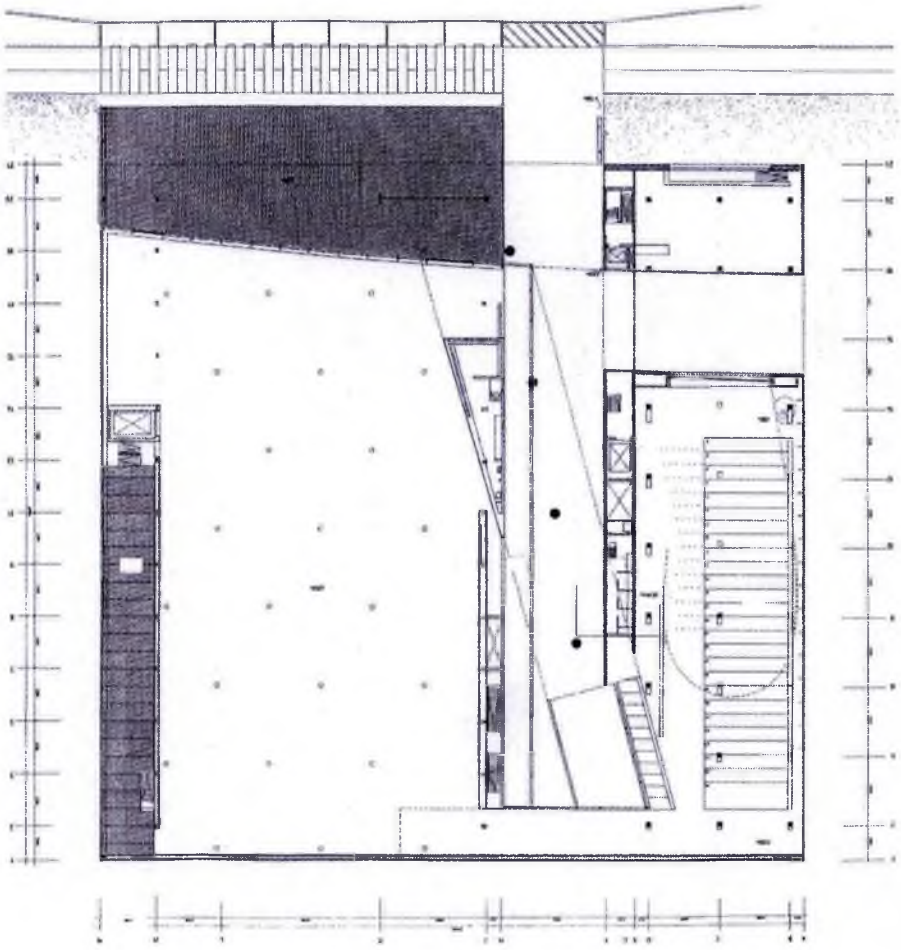


Figure 47 - Plan of the lower Museums Park level
Source: World Contemporary Architecture, Museums

5.1.3 Implementations of Design Principles in this Project

The prevailing architectural design principles and principal design factors and parameters of the Kunsthal Rotterdam which would prove resourceful in the design of Zainul Abedin Art Museum are as follows:

- Introducing a bold form onto a scenery of relatively few contrasting elements
- Use of strong rectilinear elements to disguise a more dramatic interior space
- Use of the ramp as a major design element, which is also expressed clearly on the corresponding façade

5.2 Serralves Museum, Oporto; Alvaro Siza

5.2.1 Project Information

- Project Title: Serralves Museum
- Location: Oporto, Portugal
- Architect: Alvaro Siza
- Building type: Contemporary Art and Architecture Museum
- Area: 1,36,531sft

5.2.2 Project Details

Like so many other recent museum commissions, the Serralves Museum in the western suburbs of Oporto, Portugal, struggled to overcome fierce opposition from preservationists. Objections were raised – and taken as far as the European Commission in Brussels – to the proposed new building, which was to be located in the grounds of the Serralves Estate, with its Art Deco mansion, formal gardens and rural landscape. In order to gain approval, the nation's most revered architect, and son of Oporto, Alvaro Siza, designed four different schemes for two separate locations in the park. He eventually opted for the site of a former vegetable garden on the perimeter of the estate, and a design sufficient embedded in the parkland gradient to negate views of the new complex from the villa, explaining:

> *"I like this indirect relation with the main house… it is more a relation of memory, as you walk among the woods and paths."*

On a national and civic scale, the Serralves was a cornerstone of Porto's reign as European Capital of Culture, 2001, whilst at an architectural level, the museum resembles "a majectic walled garden filled with art". The building is independent from the rest of the estate, with direct access from the street, and occupies a nearly rectangular footprint contained within two strong wall elements along its longest elevations. Siza reveled in the architectural route through the building that "like a garden walk... is replete with branching routes, sudden turns, spatial clearings and pauses". From the second-floor entrance to the north, the visitor encounters patio, lobby, bookshop and atrium spaces, before reaching the main exhibition galleries. These are arranged in two almost parallel wings to the south, and the smaller "L"-shaped block to the east, and occupy a total of 43,000sft. Ramps and stairs lead down to a 300-seat auditorium, precession incorporates carefully stages vistas, and fuses internal and semi-outdoor spaces, such as the restaurant and verandah, with the nearby lake and parkland beyond.

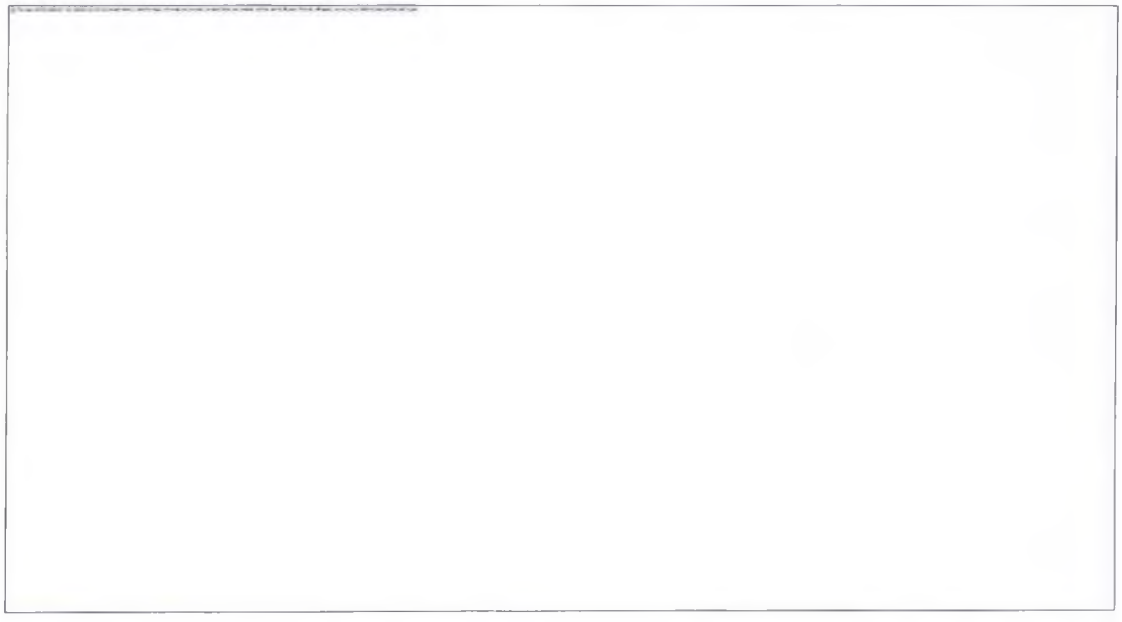


Figure 48 - Site plan of the new museum within the historic Serralves Estate, with its Art Deco mansion, formal gardens and parkland; *Source: Complete Works of Alvaro Siza*

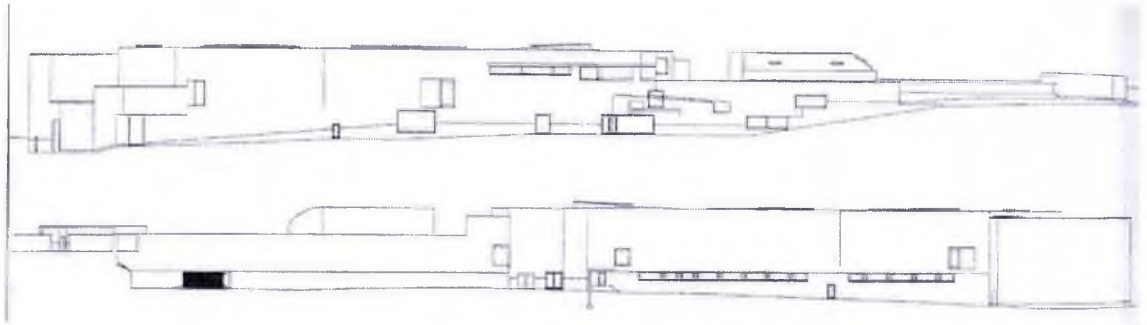


Figure 49 - North and south Elevations
Source: Complete Works of Alvaro Siza

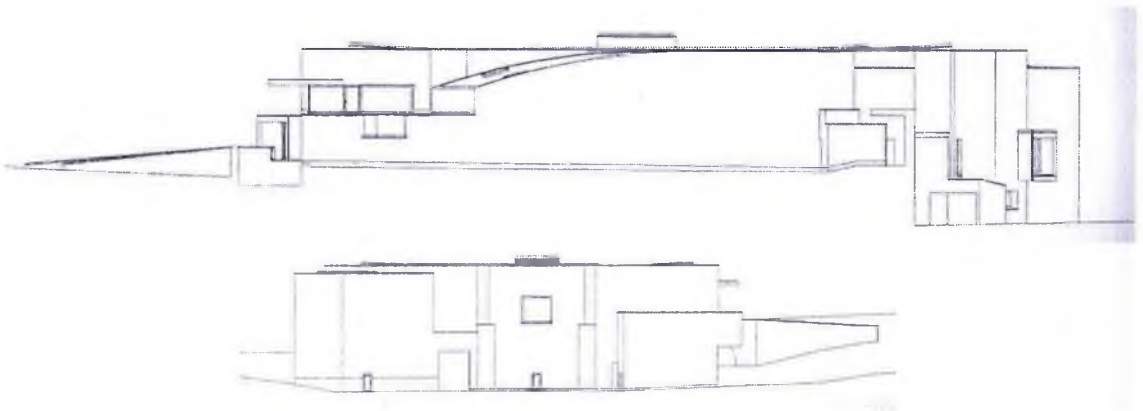


Figure 50 - East and west elevations showing the museum embedded in its parkland site
Source: Complete Works of Alvaro Siza

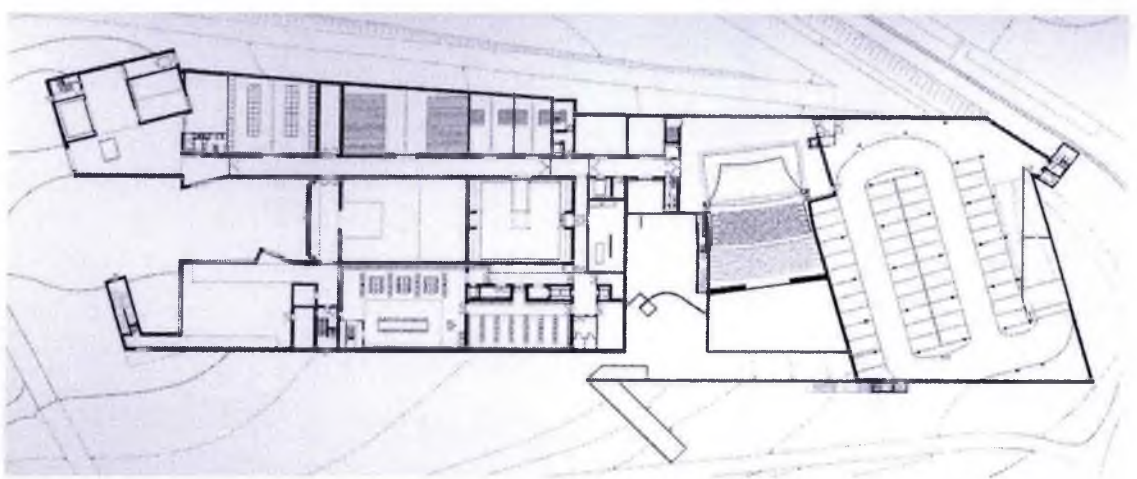


Figure 51 - First floor plan showing foyer area, auditorium and library
Source: Complete Works of Alvaro Siza

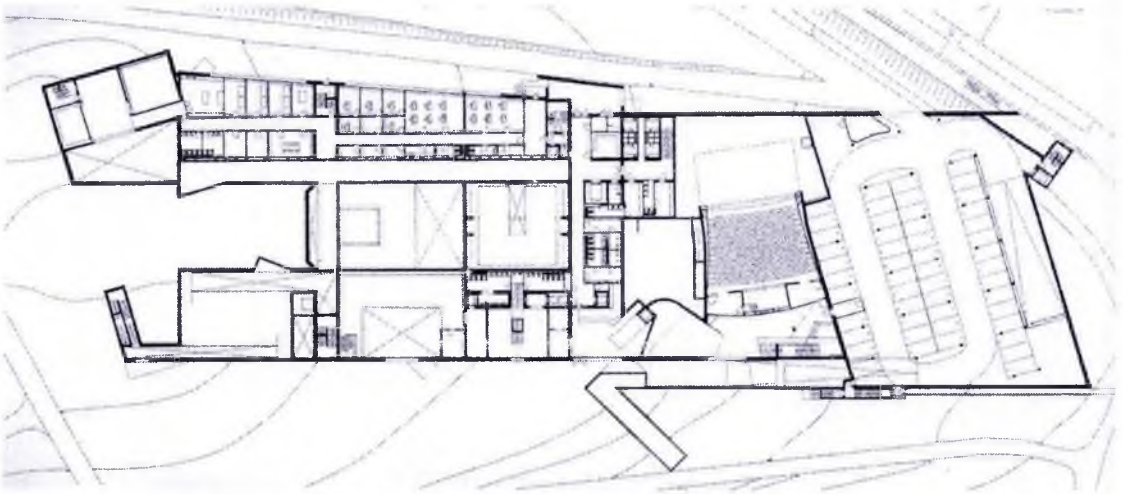


Figure 52 - Ground floor plan showing exhibition galleries and related storage spaces.
Source: Complete Works of Alvaro Siza

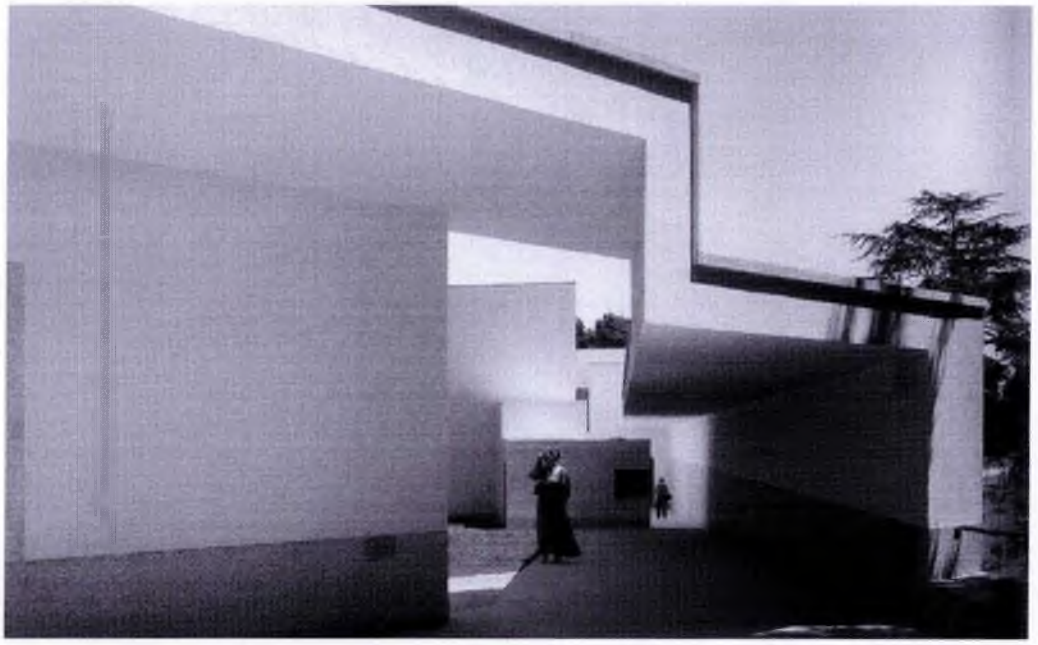


Figure 53 - The architectural promenade around the building integrates the museum into its natural setting and was carefully designed by Siza to instill curiousity; *Source: Complete Works of Alvaro Siza*

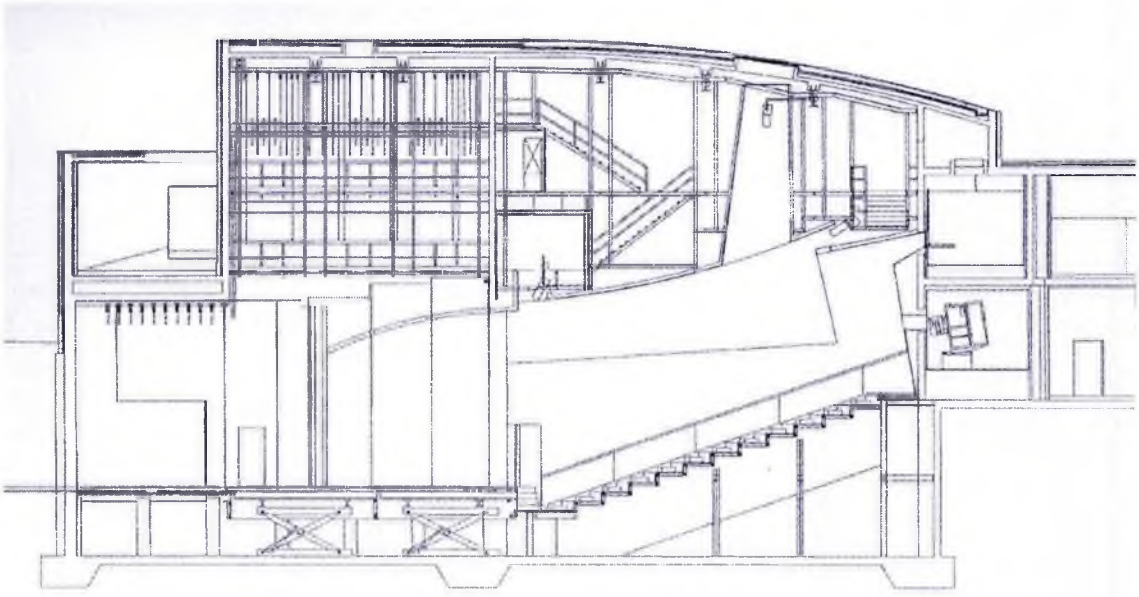


Figure 54 - Detailed section of the auditorium showing the raked seating and stage area
Source: Complete Works of Alvaro Siza

Figure 55 - The pure, white massing of Siza's museum has its roots in International modernism
Source: Complete Works of Alvaro Siza

Figure 56 - A planted roof garden softens the museum's cool functionalism
Source: Complete Works of Alvaro Siza

5.2.3 Implementations of Design Principles in this Project

The prevailing architectural design principles and principal design factors and parameters of the Serralves Museum which would prove resourceful in the design of Zainul Abedin Art Museum:

- Compacting of large functional spaces into a single monolithic form
- Intriguing use of architectural elements to affect the human psyche and perception of space
- Acute handling of a relatively large site area with sensitive surrounding conditions
- Blending of indoor-to-semi-indoor-to-outdoor spaces

5.3 Jewish Museum (Jüdisches Museum), Berlin; Daniel Leibskind

5.3.1 Project Information

- Project Title: Jewish Museum
- Location: Berlin, Germany
- Architect: Daniel Liebskind
- Building type: Memorial Museum
- Area: 1,20,000sft

5.3.2 Project Details

"The Jewish Museum is conceived as an emblem in which the Invisible and the Visible are the structural features which have been gathered in this space of Berlin and laid bare in an architecture where the unnamed remains the name which keeps still." – Daniel Libeskind

The original Jewish Museum in Berlin was founded on Oranienburger Strasse in 1933. The Nazi regime closed it in 1938, and it wasn't until 1975 that an "Association for a Jewish Museum" formed to resurrect the old museum. After an exhibition on Jewish history opened there in 1978, the Berlin Museum, which chronicled the city's history, established a Jewish Department. Soon thereafter, discussions for constructing a new museum dedicated to Jewish history in Berlin began.

In 1989, the Berlin government announced an anonymous competition for the new museum's design. A year later, Daniel Libeskind's design was chosen for the commission for what was then planned as a "Jewish Department" for the Berlin

Museum. While other entrants proposed cool, neutral spaces, Libeskind offered a radical, zigzag design, which earned the nickname "Blitz."

On July 3, 1991, the Senate of Berlin voted to scrap the Jewish Museum. Financial pressures from unforeseen unification expenses and a serious bid for Berlin to host a future Olympics prompted the Senate's decision to otherwise reallocate the approximately $50 million. The Libeskinds, however, alerted the international press. Influential political and cultural figures, including Benjamin Netanyahu, Teddy Kollek, Jacques Lang, and Marvin Hier, expressed their support for the museum. Due to these pressures, in October 1991, the Parliament of Berlin overruled the Senate and work on the Jewish Museum continued.

Construction on the new extension to the Berlin Museum began in November 1992. The empty museum was completed in 1999 and attracted over 350,000 people before it was filled and opened on September 11, 2001.

The museum adjoins the old Berlin Museum and sits on land that was both East and West Berlin before the Berlin Wall fell. The Museum itself, consisting of about 161,000 square feet (15,000 square meters), is a twisted zig-zag and is accessible only via an underground passage from the Berlin Museum's baroque wing. Its shape is reminiscent of a warped Star of David.[6] A "Void," an empty space about 66 feet (20 m) tall, slices linearly through the entire building. Menashe Kadishman's Shalechet (Fallen leaves) installation fills the void with 10,000 coarse iron faces. An irregular matrix of windows cuts in all orientations across the building's facade. A thin

layer of zinc coats the building's exterior, which will oxidize and turn bluish as it weathers.

A second underground tunnel connects the Museum proper to the E.T.A. Hoffmann Garden, or The Garden of Exile, whose foundation is tilted. The Garden's Silverberry grows out of reach, atop 49 tall pillars.

The final underground tunnel leads from the Museum to the Holocaust Tower, a 79 foot (24 m) tall empty silo. The bare concrete Tower is neither heated nor cooled, and its only light comes from a small slit in its roof.

Similar to Libeskind's first building, the Felix Nussbaum Haus, the museum consists of three spaces. All three of the underground tunnels, or "axes," intersect and may represent the connection between the three realities of Jewish life in Germany, as symbolized by each of the three spaces: Continuity with German history, Emigration from Germany, and the Holocaust.

The Jewish Museum Berlin was Daniel Libeskind's first major international success.

In his research for the project, Libeskind read the Gedenkbuch, or Memorial Book, which lists all the Jews murdered in the Holocaust. The report which he filed in the original design competition borrowed the form of the Gedenkbuch.

Libeskind, a musician himself, took inspiration from music and considered the museum the final act of Arnold Schoenberg's unfinished opera, Moses und Aron. Walter Benjamin's One Way Street's 60 sections determined the number of sections that comprise the museum's zigzag section.

Figure 57 - View of the building from the courtyard
Source: World Contemporary Archtiecture: Museums

Figure 58 - View of the articulated zinc surfaces on the building's façade; *Source: World Contemporary Architecture*

Figure 59 - Interior corridor with skylight overhead; *Source: World Contemporary Architecture*

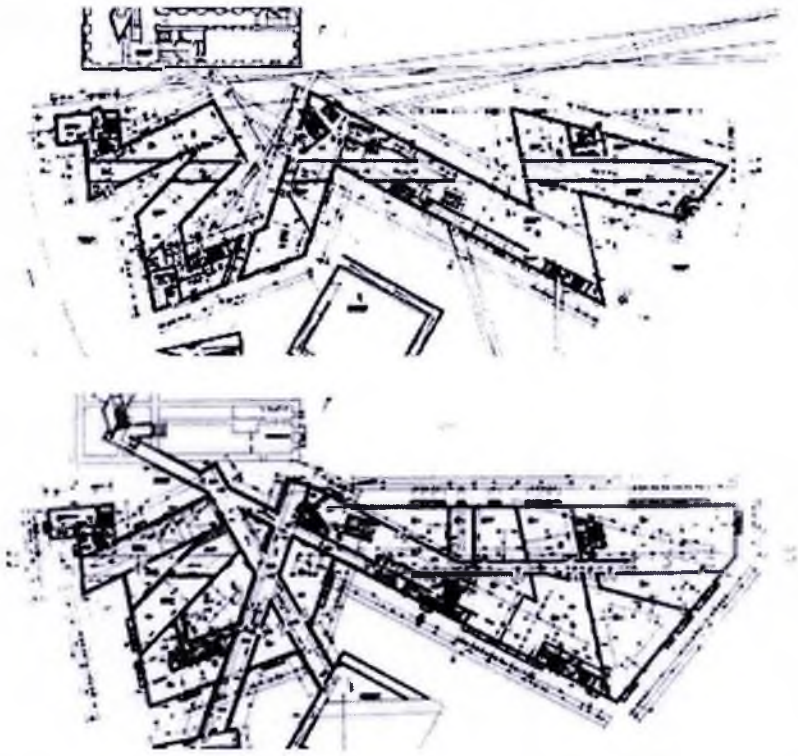


Figure 60 - The ground (above) and underground (below) floor plans of the museum
Source: World Contemporary Architecture: Museums

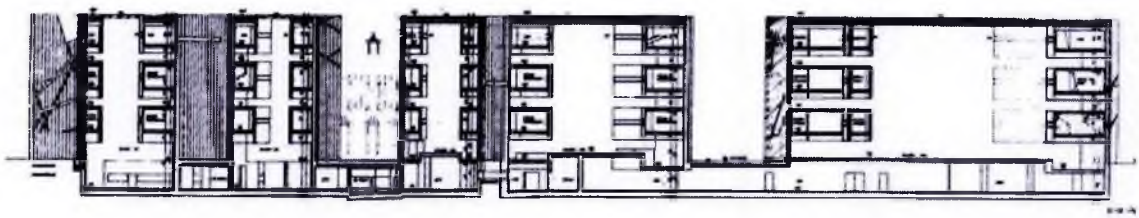


Figure 61 - Section through Die Leere
Source: World Contemporary Architecture: Museums

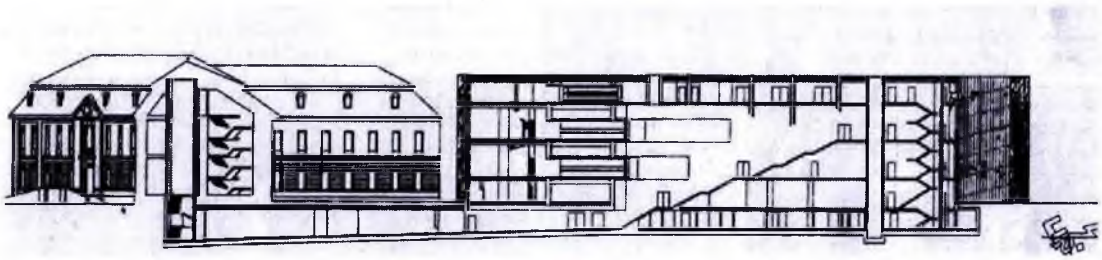


Figure 62 - Section through the large staircase that links the galleries
Source: World Contemporary Architecture: Museums

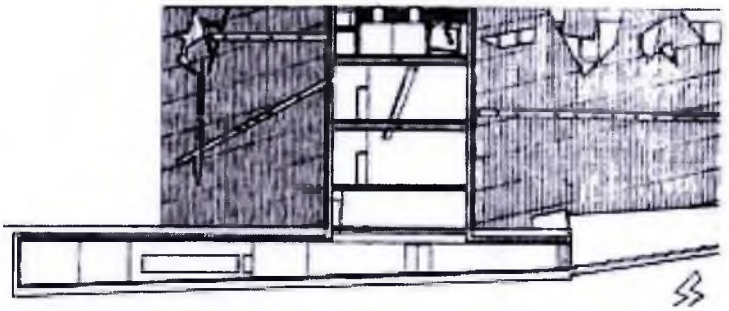


Figure 63 - East-west section through galleries
Source: World Contemporary Architecture: Museums

5.3.3 Implementations of Design Principles in this Project

The prevailing architectural design principles and principal design factors and parameters of the Jewish Museum which would prove resourceful in the design of Zainul Abedin Art Museum:

- Dramatic use of architectural elements to induce strong emotional responses in the audience
- Blending of various different types of forms
- Use of daylight as a method of instilling a sense of dynamism into the building
- Use of a surface treatment material as an important factor in the design theme rather than only as a means of preventing weather damage or to simply reduce maintenance responsibilities
- Use of a long time span to slowly alter the appearance of the building as the surface material ages – reflective of the overall concept of the project in a dynamic yet deliberately protracted way

5.4 Aalto University School of Art and Design, Helsinki

5.4.1 Project Brief

Aalto University School of Art and Design, known commonly as TaiK, is the largest art university in the Nordic countries, and was founded in 1871. Media Centre Lume

– the National Research and Development Center of audiovisual media – is also located in the university. The university awards the following academic degrees: Bachelor of Arts, Master of Arts, and Doctor of Arts.

The university has been active in establishing research projects and industrial collaborations via the private sector. During the rectorship of Yrjö Sotamaa the university was active in integrating design into Finnish innovation networks. This eventually led to the amalgamation of TaiK together with Helsinki University of Technology (TKK) and the Helsinki School of Economics (HSE) into a new charter university, Aalto University, which started in January 2010.

Figure 64 - Aalto University School of Art and Design in Helsinki from air
Source: WikiMedia Commons, www.wikipedia.com

Figure 65 – Section
Source: WikiMedia Commons, www.wikipedia.com

Figure 66 - Façade towards sukenkato
Source: WikiMedia Commons, www.wikipedia.com

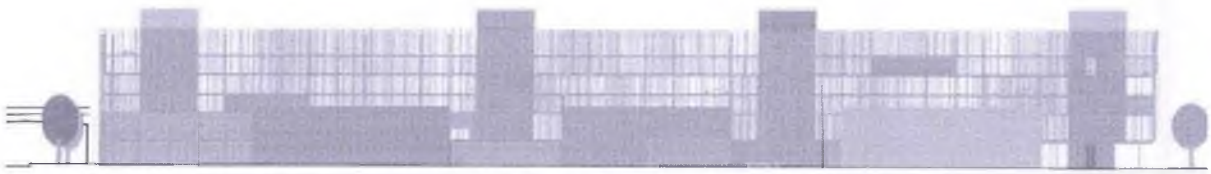


Figure 67 - Façade towards park
Source: WikiMedia Commons, www.wikipedia.com

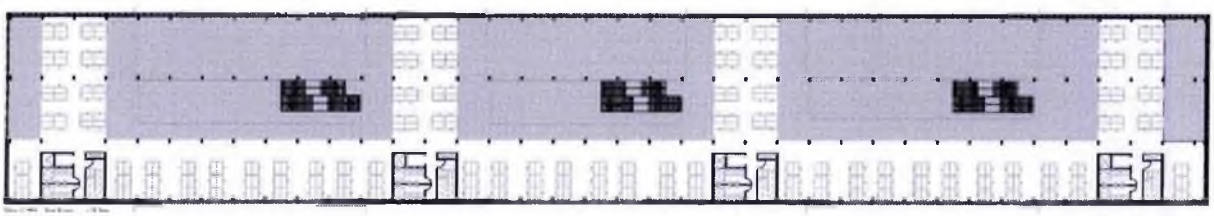


Figure 68 - 3rd & 5th floor plan
Source: WikiMedia Commons, www.wikipedia.com

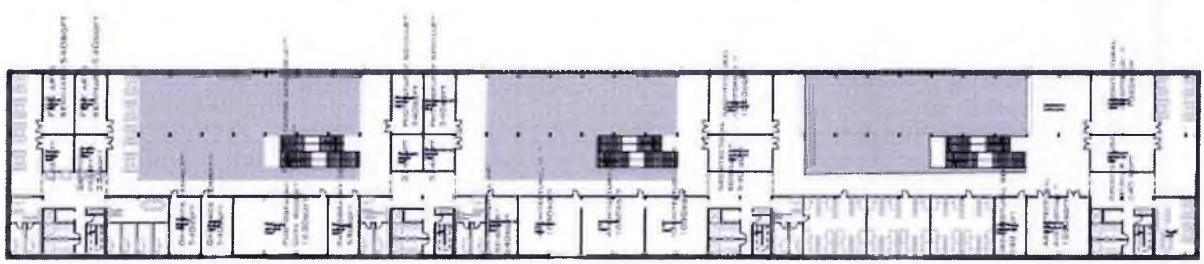


Figure 69 - 4th floor plan
Source: WikiMedia Commons, www.wikipedia.com

Figure 70 – Section
Source: WikiMedia Commons, www.wikipedia.com

5.4.2 Implementations of Design Principles in this Project

The prevailing architectural design principles and principal design factors and parameters of the Aalto School of Design which would prove resourceful in the design of Zainul Abedin Art Museum:

- Organization of Academic and Administrative elements in a creative design academy
- Combination of outdoor, semi-outdoor and indoor spaces to allow smooth circulation and congregation spaces for students
- Use of rectilinear forms to present an artistic façade treatment

5.5 Charukaia Institute of Fine Arts, Dhaka; Mazharul Islam

5.5.1 Project Information

- Project Title: Charukala Institute of Fine Arts
- Location: Dhaka, Bangladesh
- Architect: Mazharul Islam
- Building type: School of Art and Crafts
- Area: 61,858sft

5.5.2 Project Information

This art institute was Muzharul Islam's first architectural endeavor. The site is located in the roman area apart of Dhaka University Campus. The Roman area is well known for its gardens and parks. Most of the buildings in this area have been designed in the scheme of a "bagan bari" (house in a garden). The site that was given for the purpose of the institute was dotted with beautiful trees with a large circular depression at the end of the site. Muzharul Islam decided to come up with a design scheme that will retain all the trees on the site (as some of them were large beautiful trees that would have require many years to grow). His scheme was also climate responsive and had large continuous verandahs shading the inner walls and windows of the classrooms and studios.

The design echoes the outer house and inner house scheme of rural Bangladesh. It also transforms 'Jalees' (lattices) and 'beras' (perforated screens) into wonderful screens that separates and creates thresholds. One enters into the front pavilion, a wonderful structure that houses galleries on the ground floor and teachers and common rooms etc. on the first.

A sculptural staircase connects the two levels around a wonderful internal courtyard. Past the pavilion are the classrooms and studios and in the far end encircling the round depression are the print studios. A lotus pond and sitting area becomes the open heart of the whole institute. The ground on the south both is a relief and a place to gather. This ground and the whole structure itself transforms to host many activities namely the Bengali New Year 'Pohela Boishakh' and numerous art classes

and competitions for children. Bricks of the project were also custom designed by Muzharul Islam as so are the terracotta screens.

Figure 71 - Wooden Shading Devices used in Charukala
Source: Zoha, Y.

Figure 72 - Sculptural Staircase Connecting Levels around the Courtyard
Source: Zoha, Y.

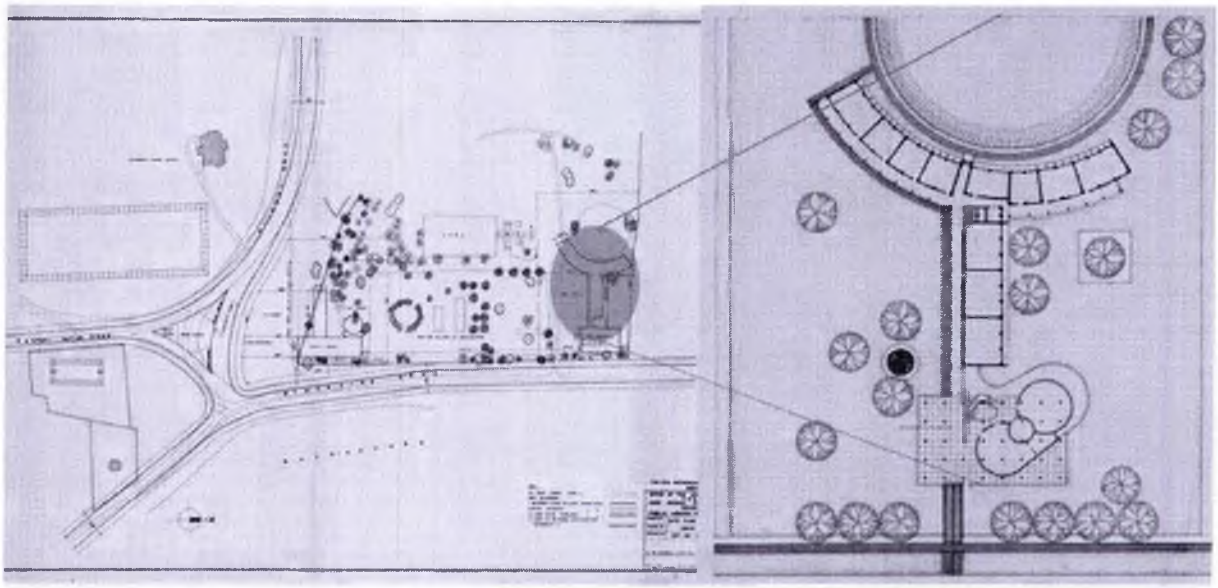


Figure 73 - Plan showing Blow-up
Source: Mazharul Islam Archives at Bangladesh University of Engineering and Technology

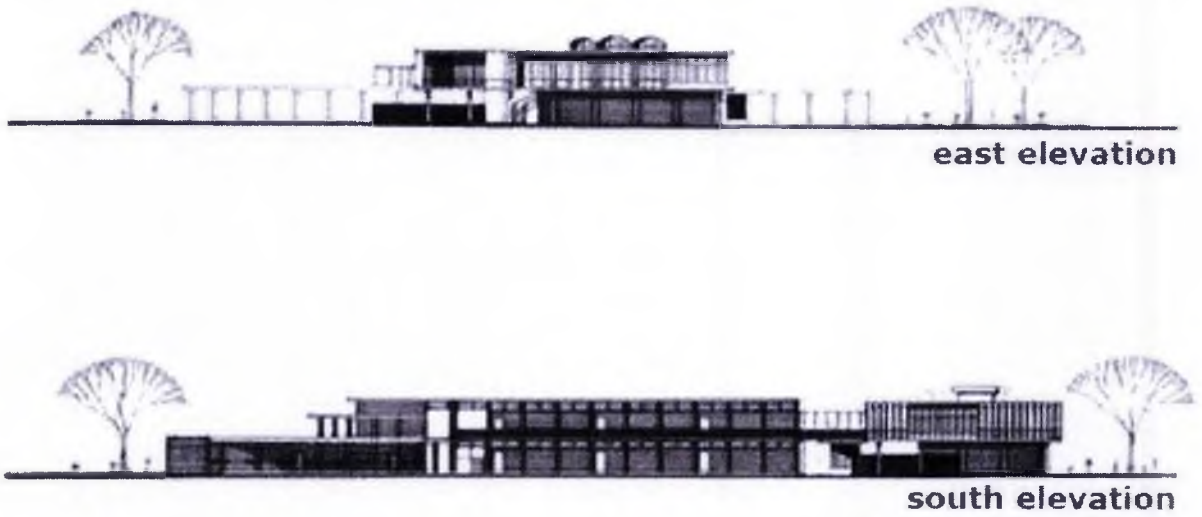


Figure 74 – Elevations
Source: Mazharul Islam Archives at Bangladesh University of Engineering and Technology

Figure 75 - Continuous Balconeies
Source: Zoha, Y.

5.5.3 Implementations of Design Principles in this Project

The prevailing architectural design principles and principal design factors and parameters of the Charulaka Institute of Fine Arts which would prove resourceful in the design of Zainul Abedin Art Museum:

- Use of locally sourced materials to produce aesthetically pleasing surfaces
- Geometric forms and spaces used to provide students and faculty with serene spaces for artistic contemplation and inspiration
- Environmental considerations for climatic conditions similar to Mymensingh, i.e. the site for the Zainul Abedin Art Museum
- Use of landscape elements to enhance the experience of space

6 CHAPTER 6: PROGRAM DEVELOPMENT

6.1.1 Proposed Program

The proposed program has been derived from information based on previous proposals for the Zainul Abedin Art Museum and real world information collected at the site in terms of space required for artwork to be displayed. The functions have been categorized broadly into two sections: section A – which incorporates the public zones of the building, i.e. the auditorium, museum, galleries, amphitheater, etc, and section B – which incorporates the academic zones, i.e. schools of fine arts and performing arts, library, etc.

6.1.2 Functions and Space Allocation

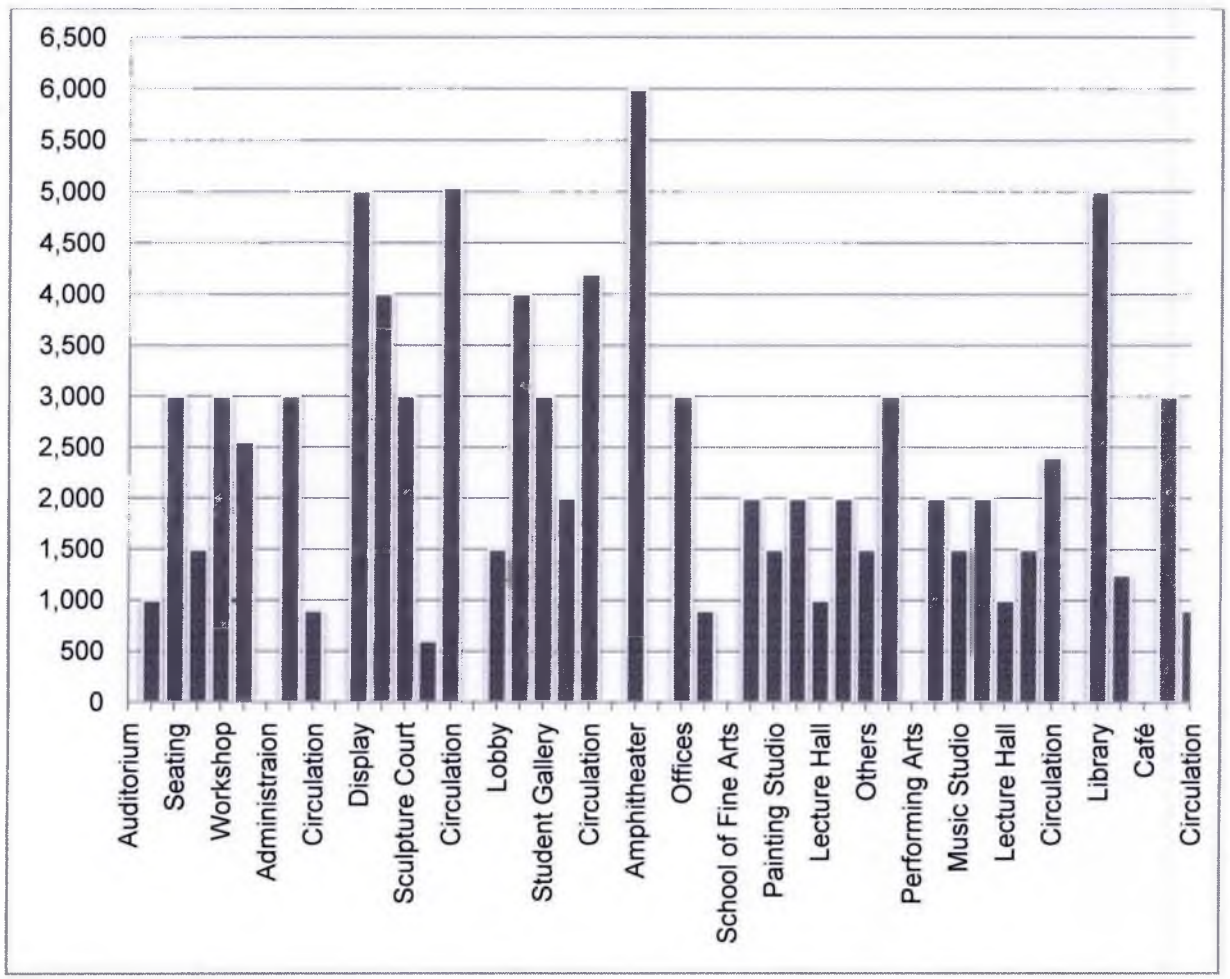
The following is a list of the functions which are to be incorporated into the design of the Zainul Abedin Art Museum including the proposed square feet area to be allocated for the corresponding space:

A (Public)		
Auditorium		11050
Hall Lobby	1000	
Seating	3000	
Staging + A/V	1500	
Workshop	3000	
Circulation	2550	
Administration		3900
Offices	3000	
Circulation	900	
Museum		17640
Display	5000	

Working Areas	4000	
Sculpture Court	3000	
Toilets	600	
Circulation	5040	
Gallery		14700
Lobby	1500	
Temporary Gallery	4000	
Student Gallery	3000	
Workshop	2000	
Circulation	4200	
Amphitheater		6000
Amphitheater	6000	
B (Academic)		
Administration		3900
Offices	3000	
Circulation	900	
School of Fine Arts		13000
Sculpture Studio	2000	
Painting Studio	1500	
Handicrafts Studio	2000	
Lecture Hall	1000	
Production Area	2000	
Others	1500	
Circulation	3000	
Library		6250
Library	5000	
Circulation	1250	
Café		3900
Kitchen + Seating	3000	
Circulation	900	
		90740

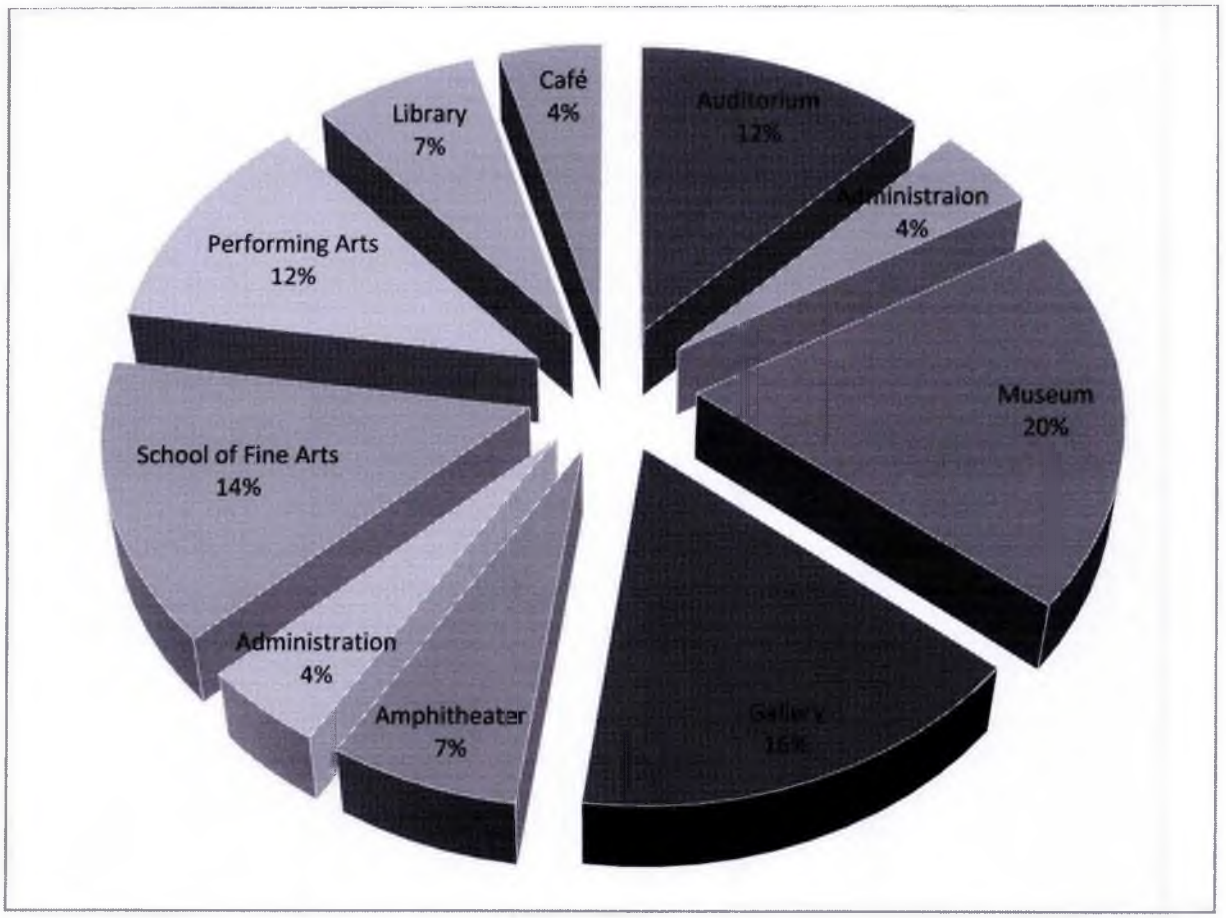
6.1.3 Graphical Analysis of Program Allocation

The following graph depicts the amounts of space assigned for each function side by side for a comparative analysis of program allocation:



6.1.4 Graphical Analysis of Space Distribution

The following graph reveals the amount of space occupied by each major component of the program against the total amount of built area. The functions on the right half of the graph comprise the public areas (i.e. section A as noted previously), and those on the left half consist of the academic functions (section B).



From this analysis, it is evident that the most space (about 35% of built area) is allocated to the museum and galleries with the schools of fine arts and performing arts following (about 25% together), followed by the auditorium (12%). Ancillaries and other functions take up the remainder of the space (28%).

6.2 Rationale of the Program

The program selection and square foot area allocation determines the efficacy of the end design; therefore the underlying principle at work should be based on practical aspects regarding standards of museum design and the specific requirements of this particular project.

The museum functions and space requirements are dictated by the existing paintings by Zainul Abedin which are available for display along with ancillaries such as a workshop for painting and framework maintenance and conservation, facilities for use by visitors, and administrative functions. Gallery functions are determined based on projections of potential for temporary exhibitions by visiting artists and other public exhibitions based on international standards for art gallery design, including ancillary functions which may be required.

Amphitheater and auditorium functions and areas are determined based on the potential for public functions which may occur at this site and take into account the local and visitor population that may require accommodation at such events.

The academic functions are allocated based on the requirements of the potential enrollment of students at a school of arts in Mymensingh and take into account some range of expansion in the field of contemporary art in Bangladesh. The library space allocation is based on currently available information resources on contemporary art in Bangladesh and worldwide.

The overall program treats the project based on the principle of "public open spaces". This sees the functions as a series of enclosed and semi-open spaces arranged on a vast open plaza – as a result the design is extroverted and welcoming rather than enclosed and inward. This type of planning also allows a varying degree of adjustability for each function during the design development process without adversely affecting the circulation or overall openness of the layout. The program

also sees the building covering about 25% of the total site area, leaving the remaining 75% available for landscaping features.

7 CHAPTER 7: CONCEPTUAL STAGE AND DESIGN DEVELOPMENT

7.1 Design Development Phase I

This phase of the design involved the conceptualization of the design of the museum complex. Based on Zainul Abedin's unique style of using bold strokes and lines (especially in his later works), an architectural concept would be derived which translates the nature of brush strokes on rough media into a three dimensional form to house the different functions required of the museum complex.

Figure 76: Study - Pushing Cart

Figure 77: Freedom Fighter

Figure 78: Brush strokes

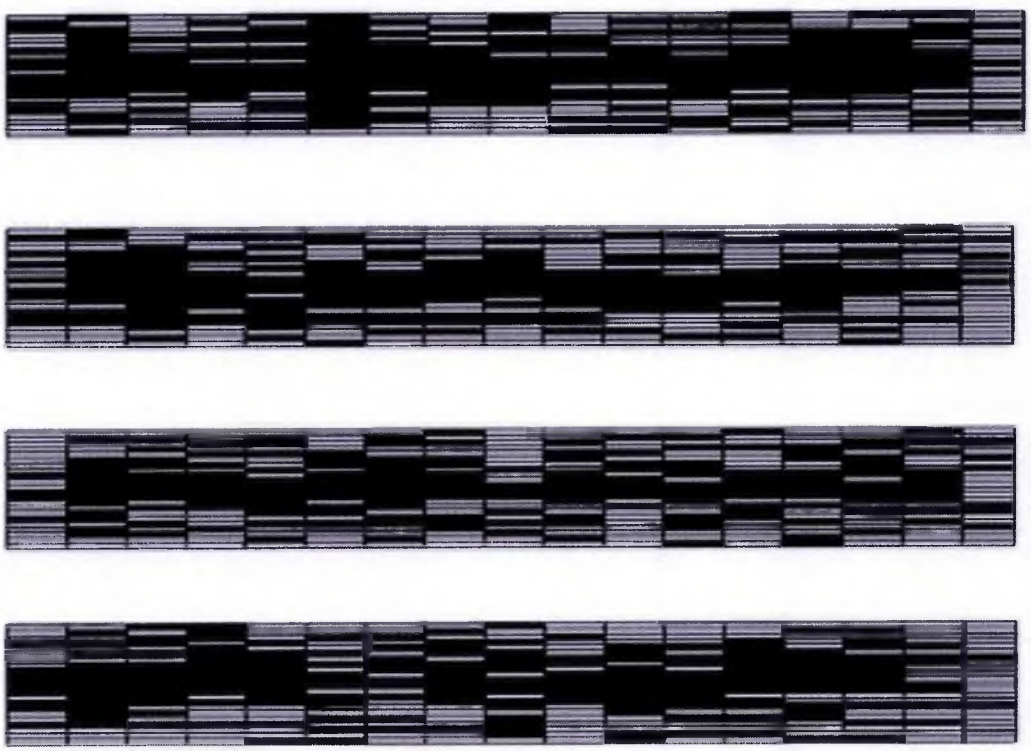


Figure 79: Grid subdivision

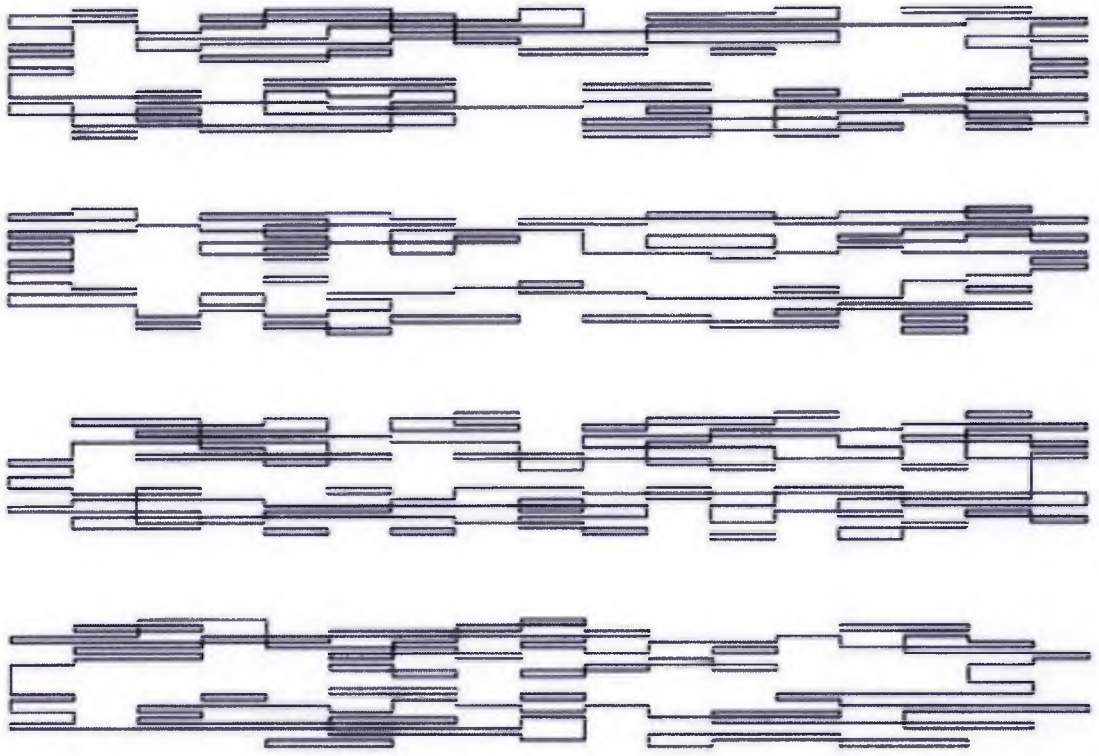


Figure 80: Surface outlining

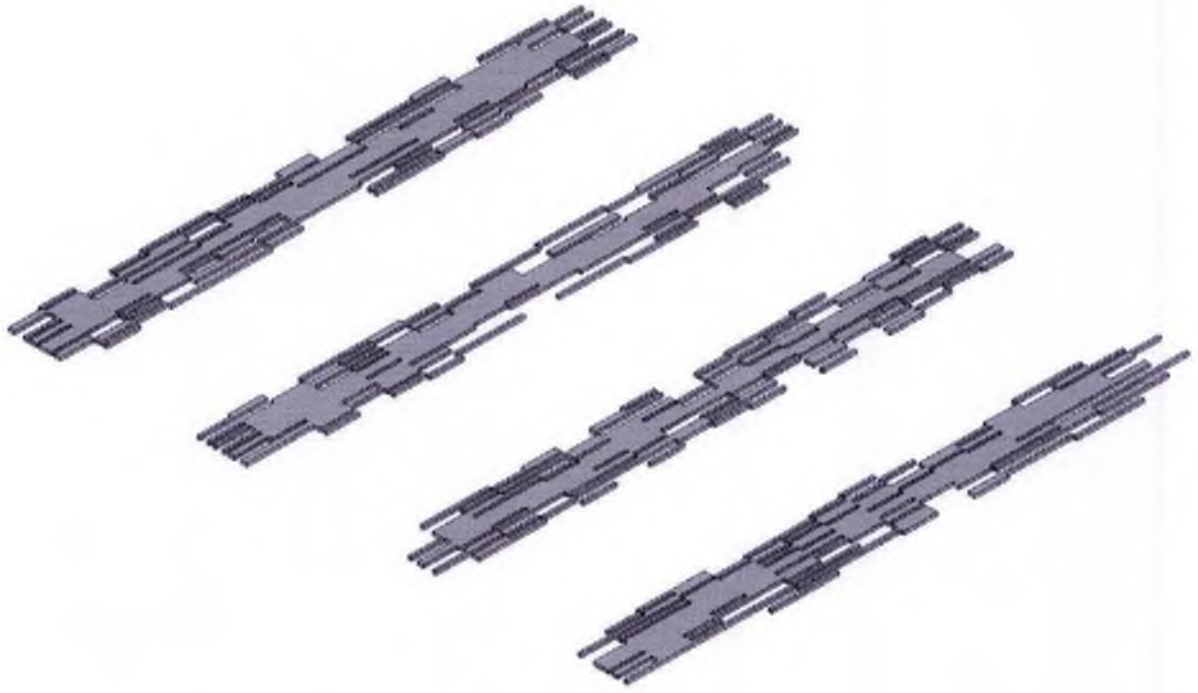


Figure 81: Extrusion

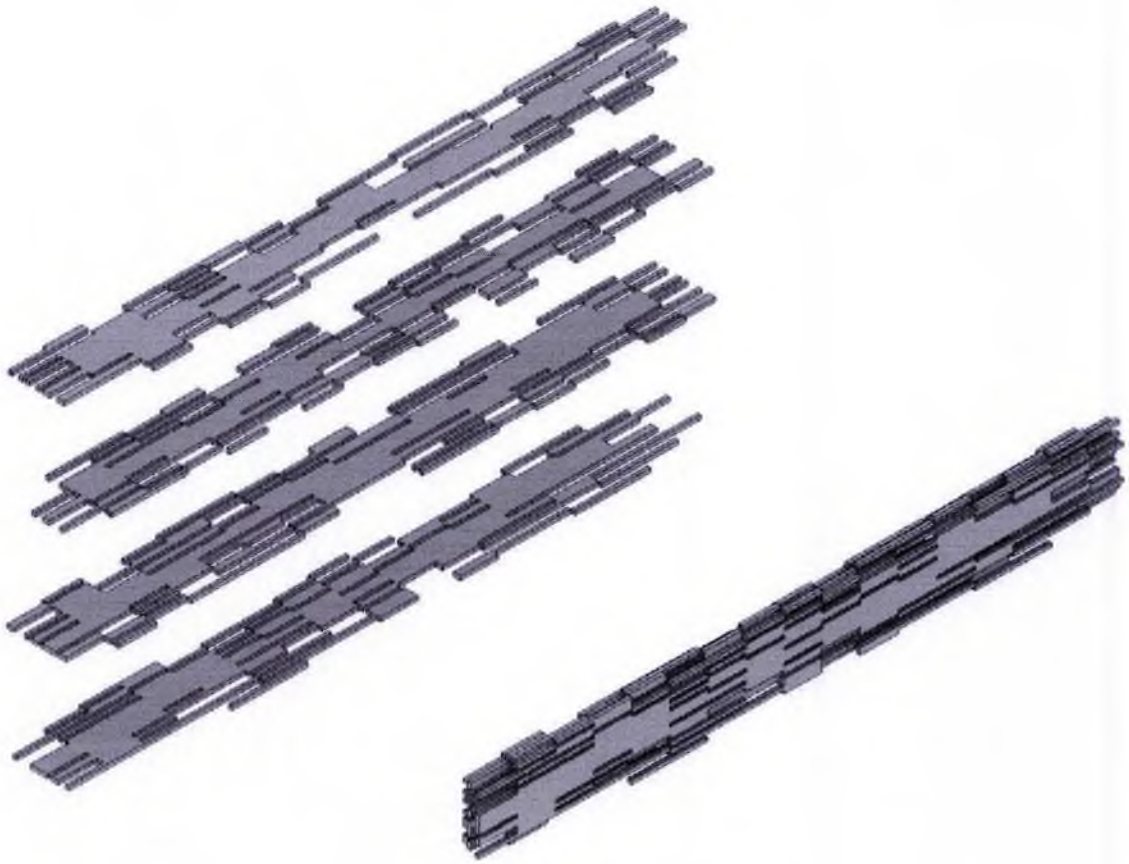


Figure 82: Layer collation

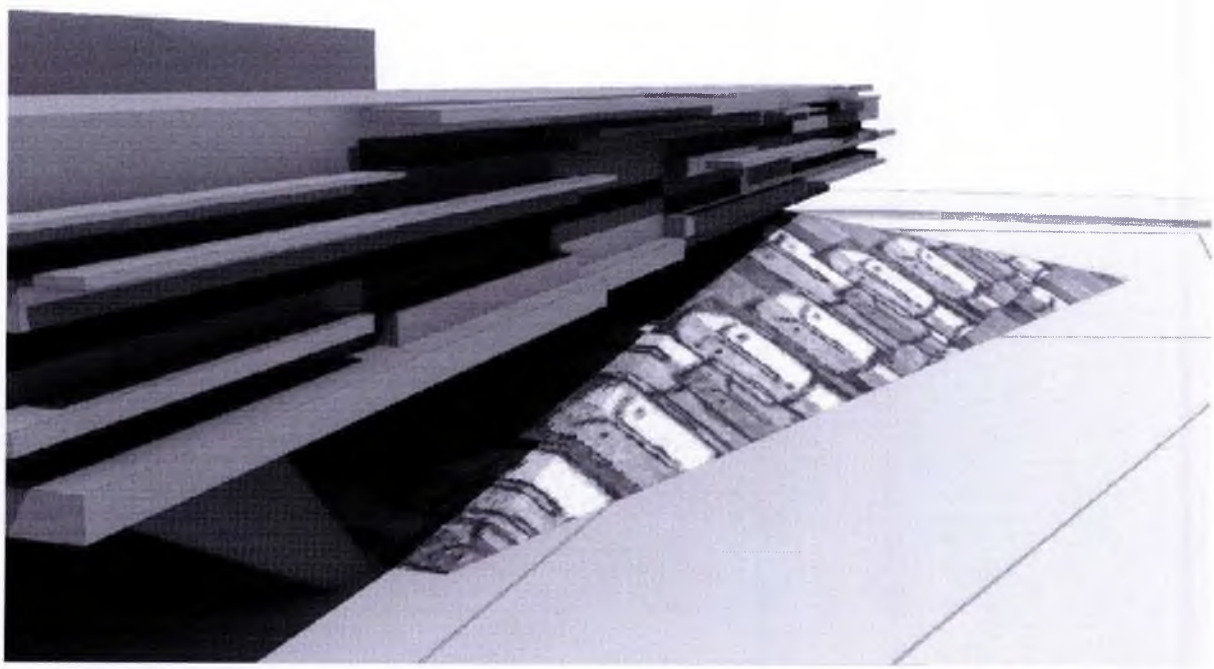


Figure 83: Final output

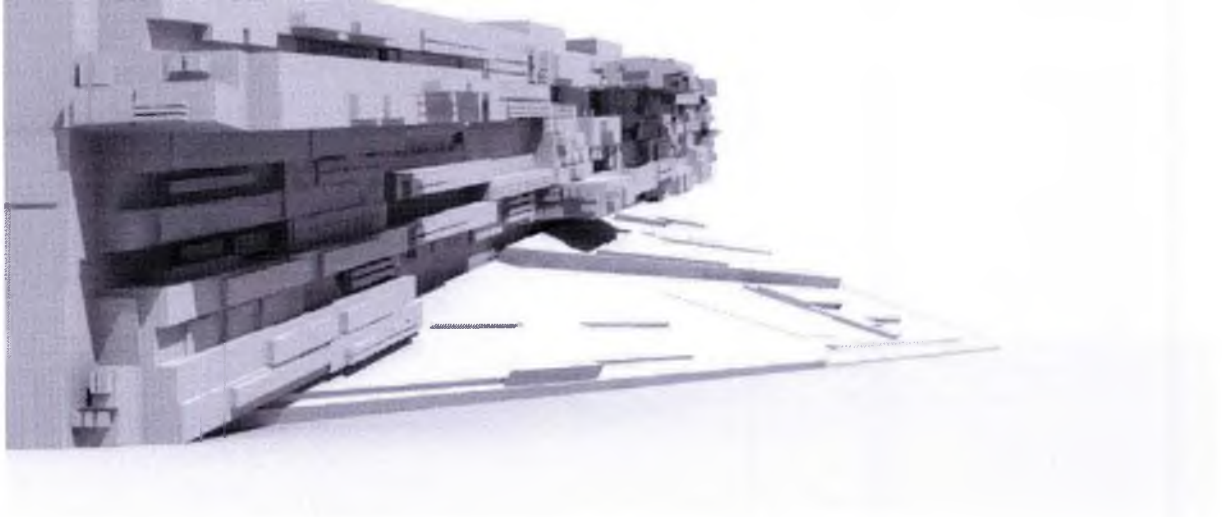


Figure 84: Final output

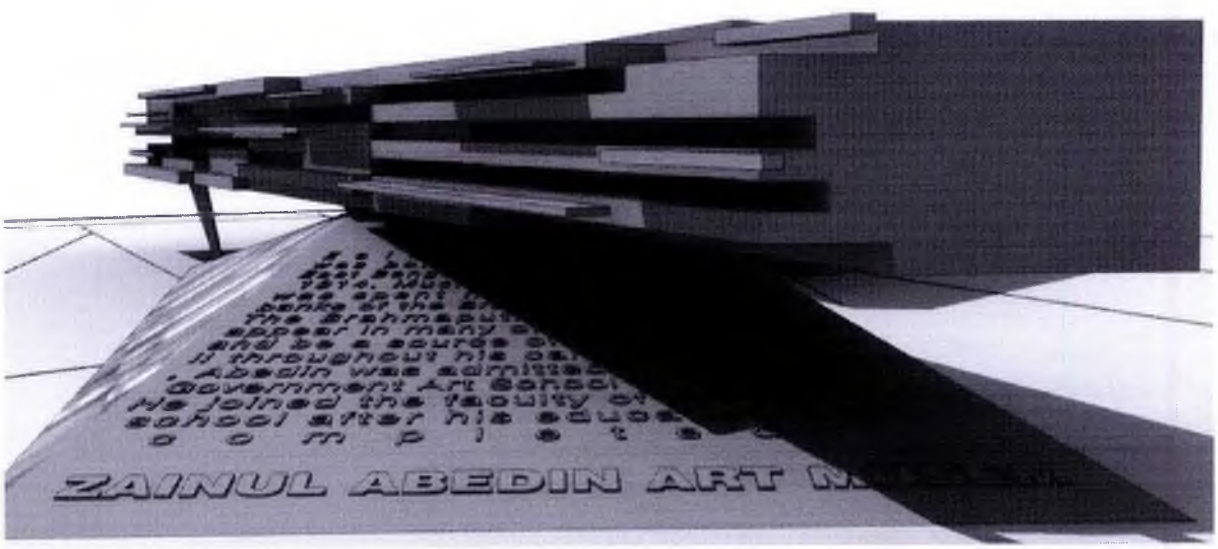


Figure 85: Final output

three dimensional space to yield a museum master plan which embodies the essence of contemporary style of art which Zainul Abedin had shaped for the artistic heritage of Bangladesh.

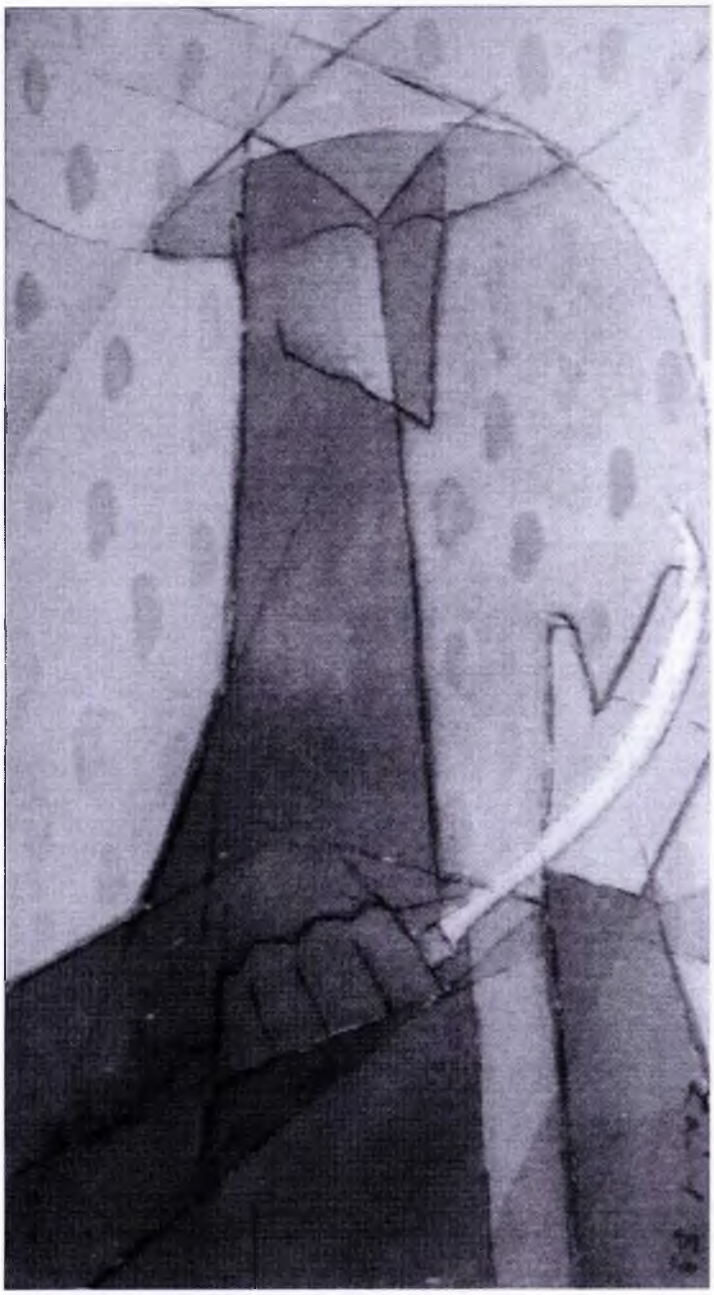


Figure 86: Farmer

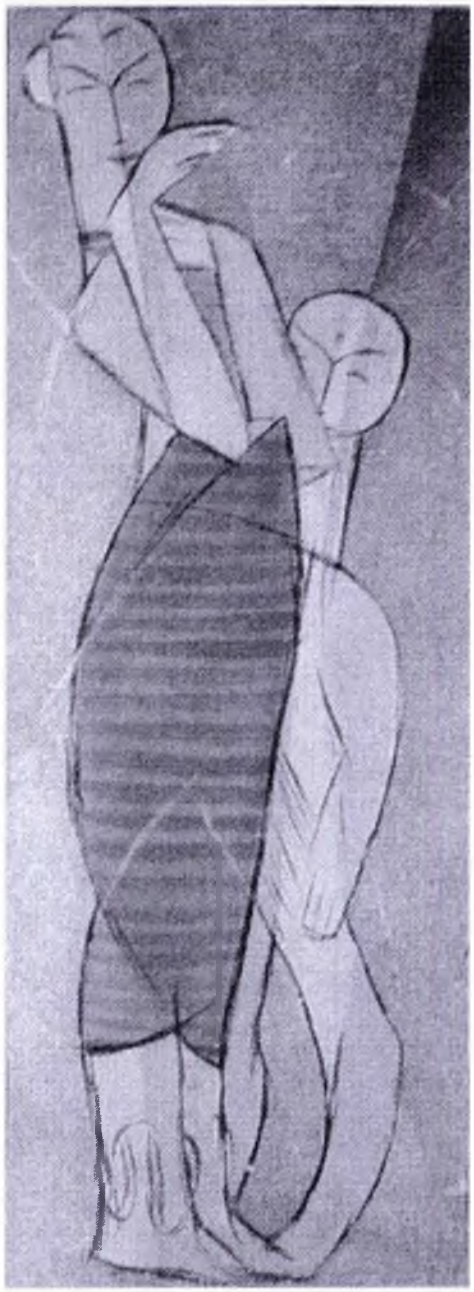


Figure 87: Mother and child

"brush strokes" and "painting interpretation". The brush strokes would ultimately translate into architectural elements in the form of massing, fenestration, and landscaping. The painting interpretation directly affects the site planning and building block and landscape section layout.

Another important relevant element which contributed greatly to the concept was the close relationship the site had with the river Bhramaputra. This would play the role of the structural design of the project – which was inspired by the traditional riverside habitats of the region. In later design phases, this part of the concept also affects the dock design.

Figure 88: Concept

Figure 89: Concept

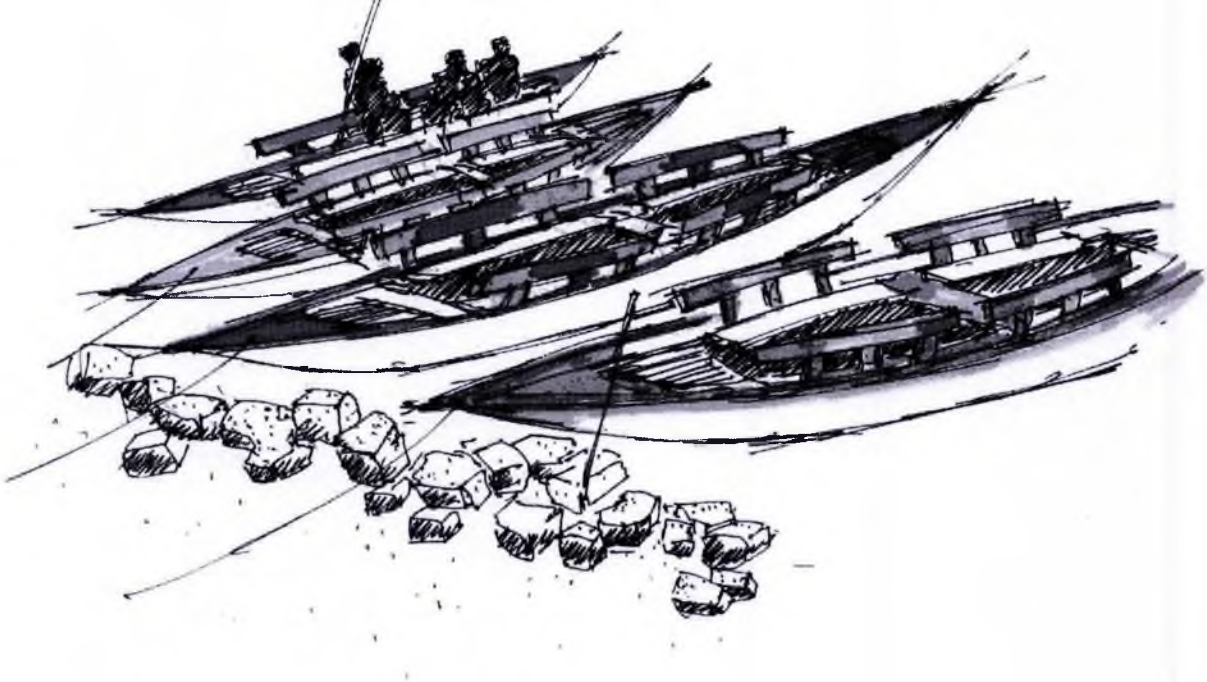


Figure 90: Concept

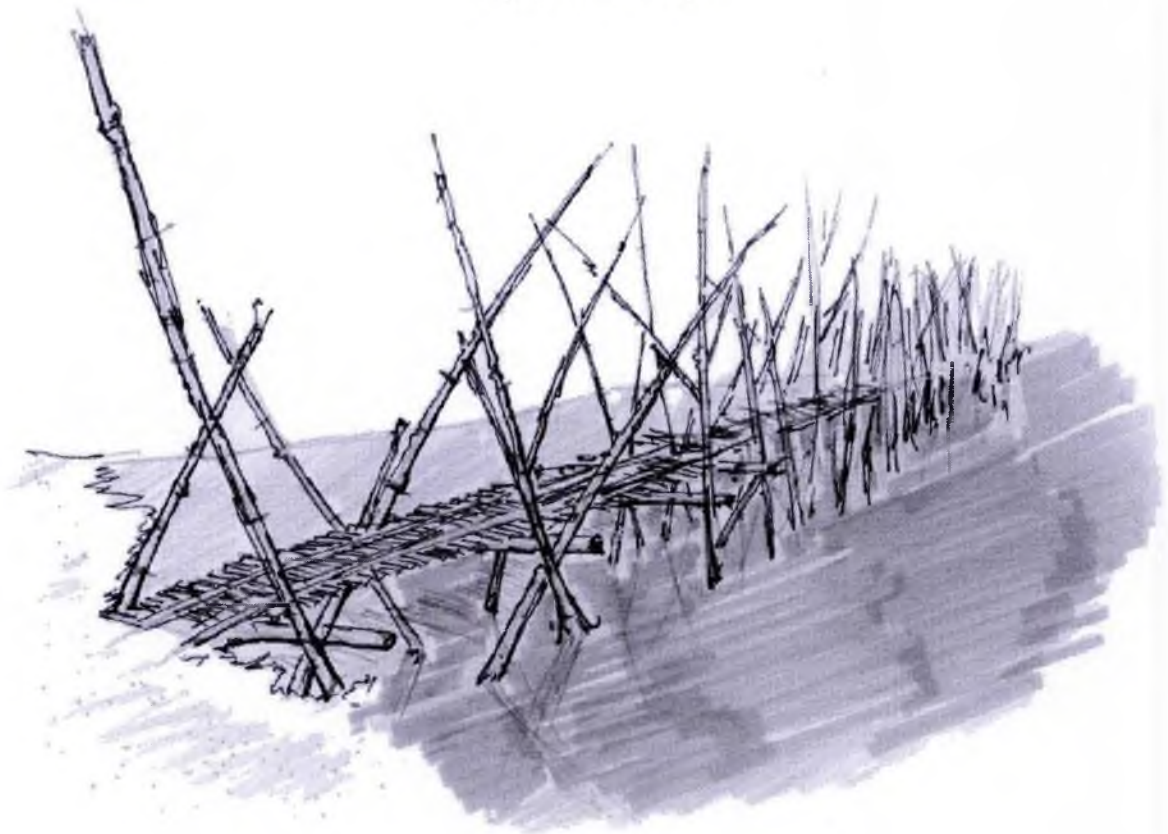


Figure 91: Concept

in the first phase with the logical zoning required of the museum complex. This entailed the solving of the site layout including a study of the ideal building profile which would fit the ideological model without compromising functionality as a museum.

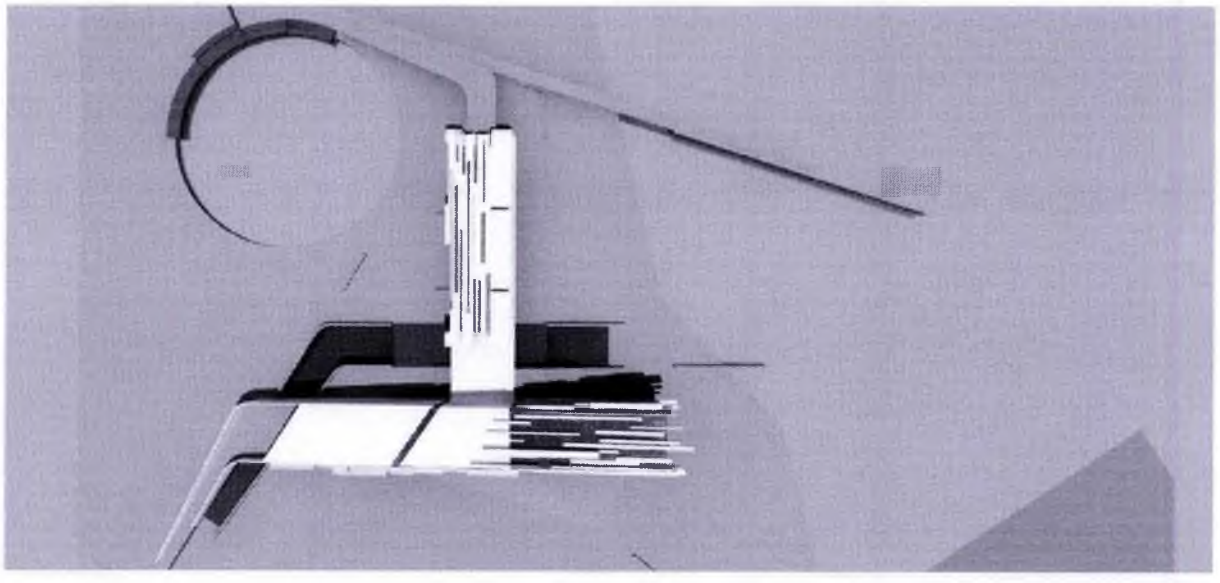


Figure 92: Form (phase 02)

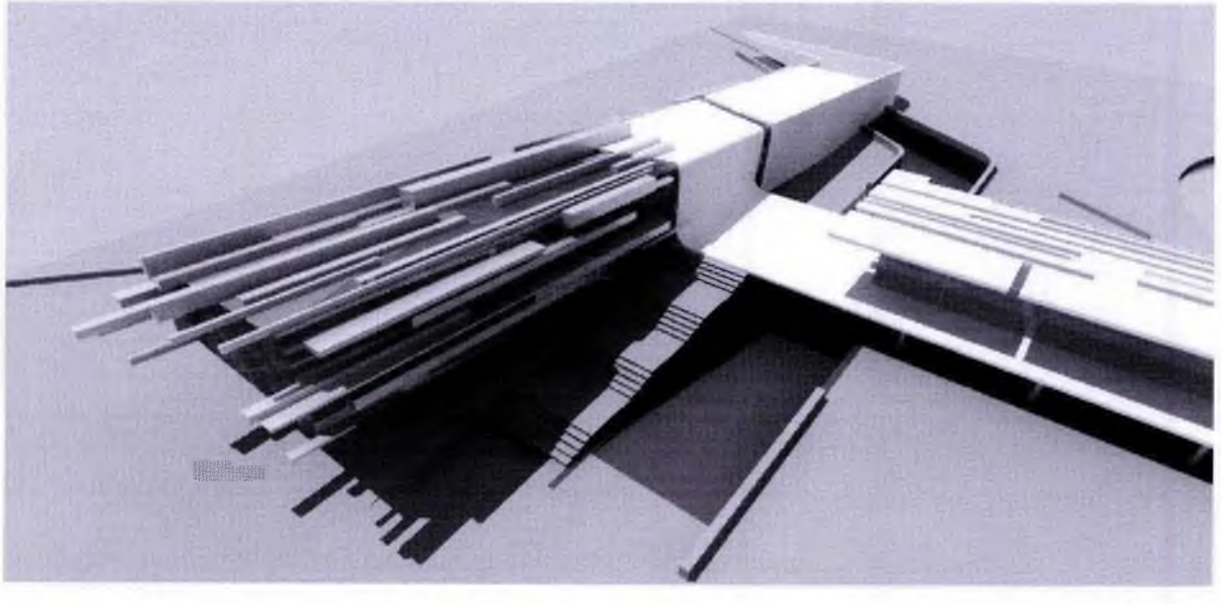


Figure 93: Form (phase 02)

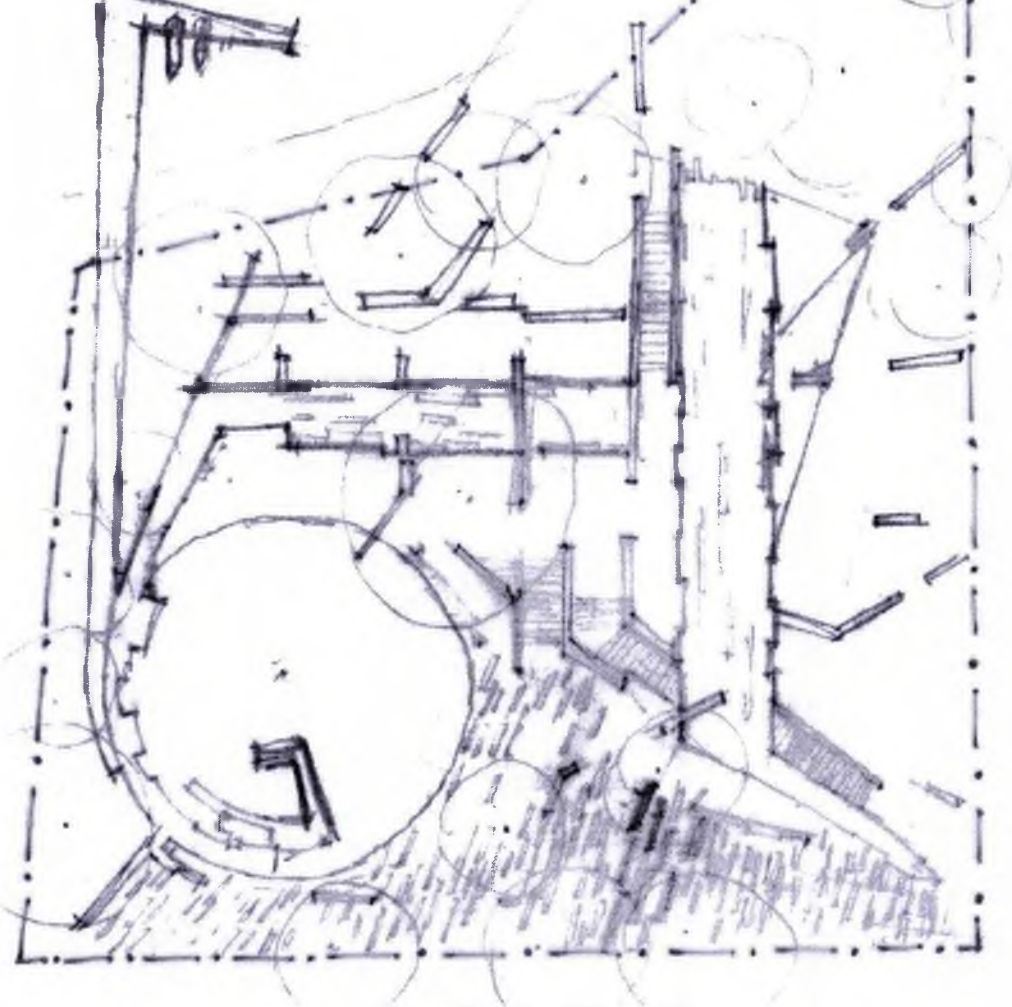


Figure 94: Plan (Phase 02)

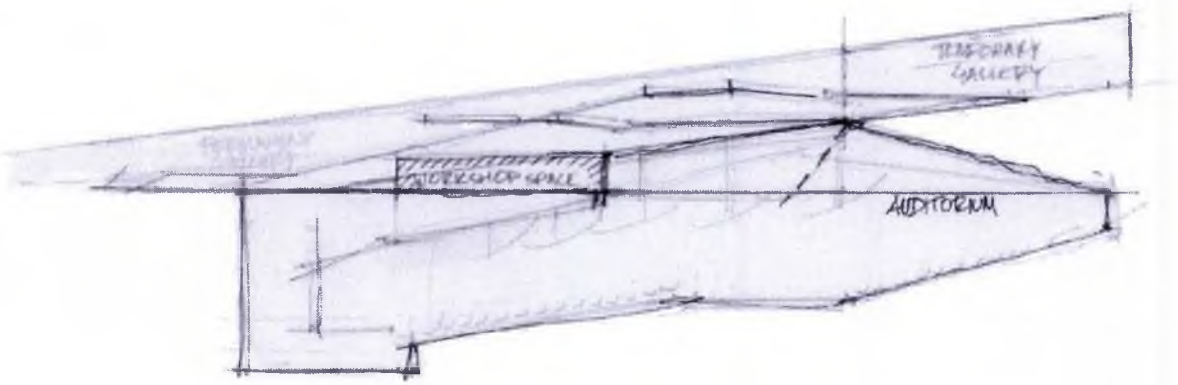


Figure 95: Section (Phase 02)

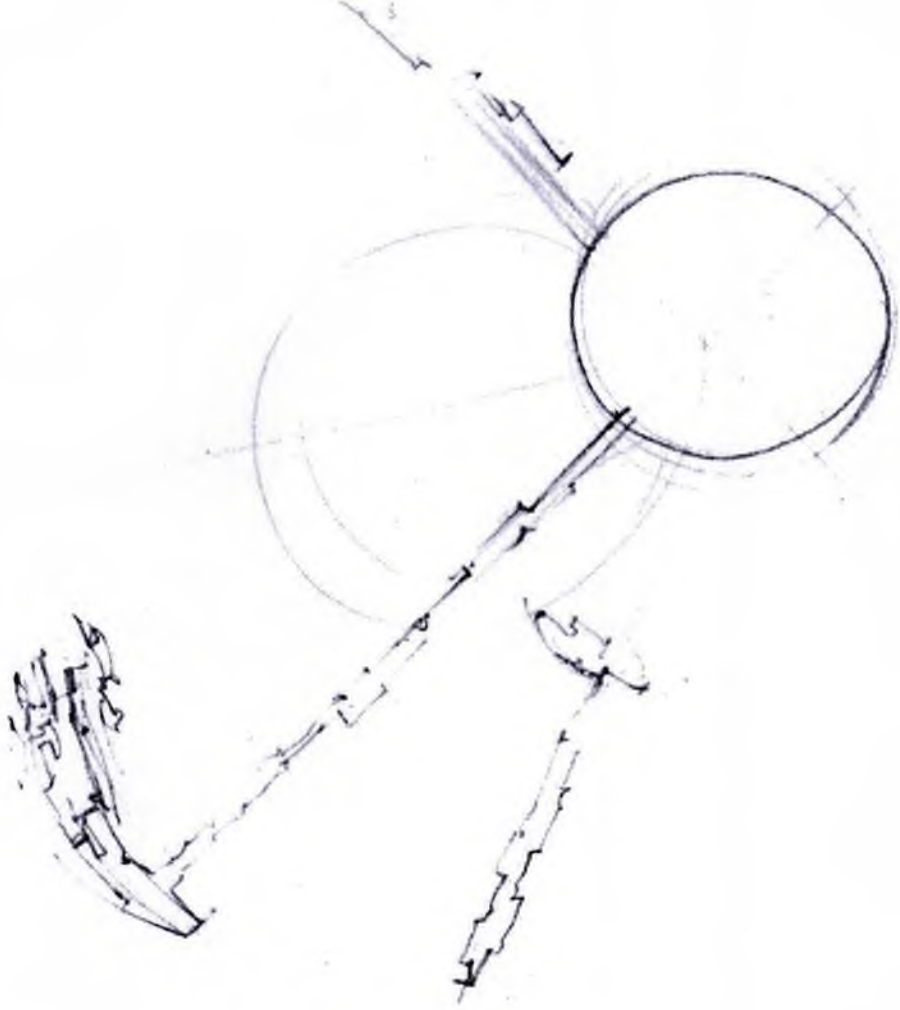


Figure 96: Ghat Concept (Phase 02)

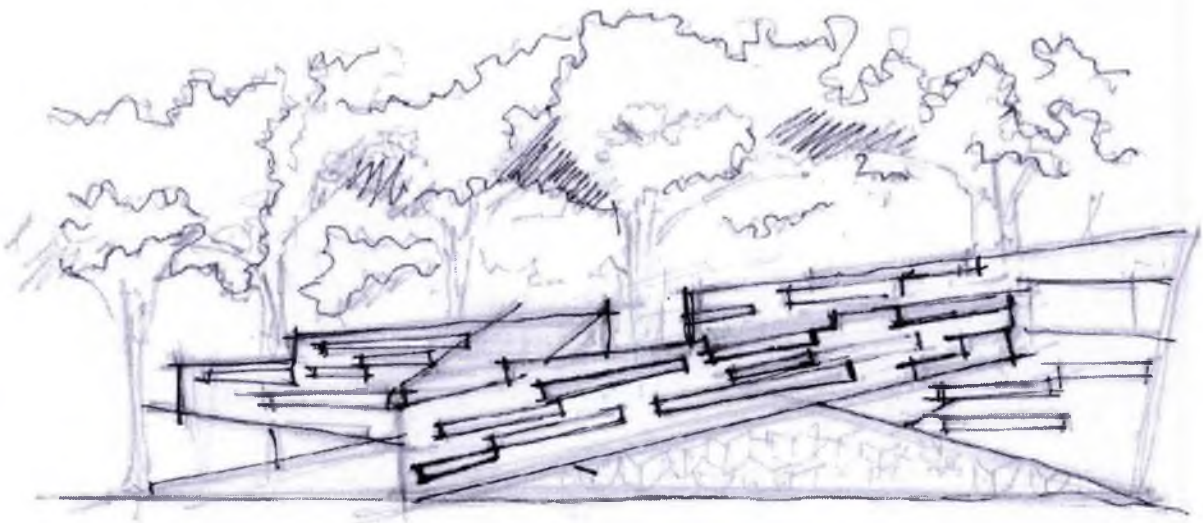


Figure 97: Conceptual elevation (Phase 02)

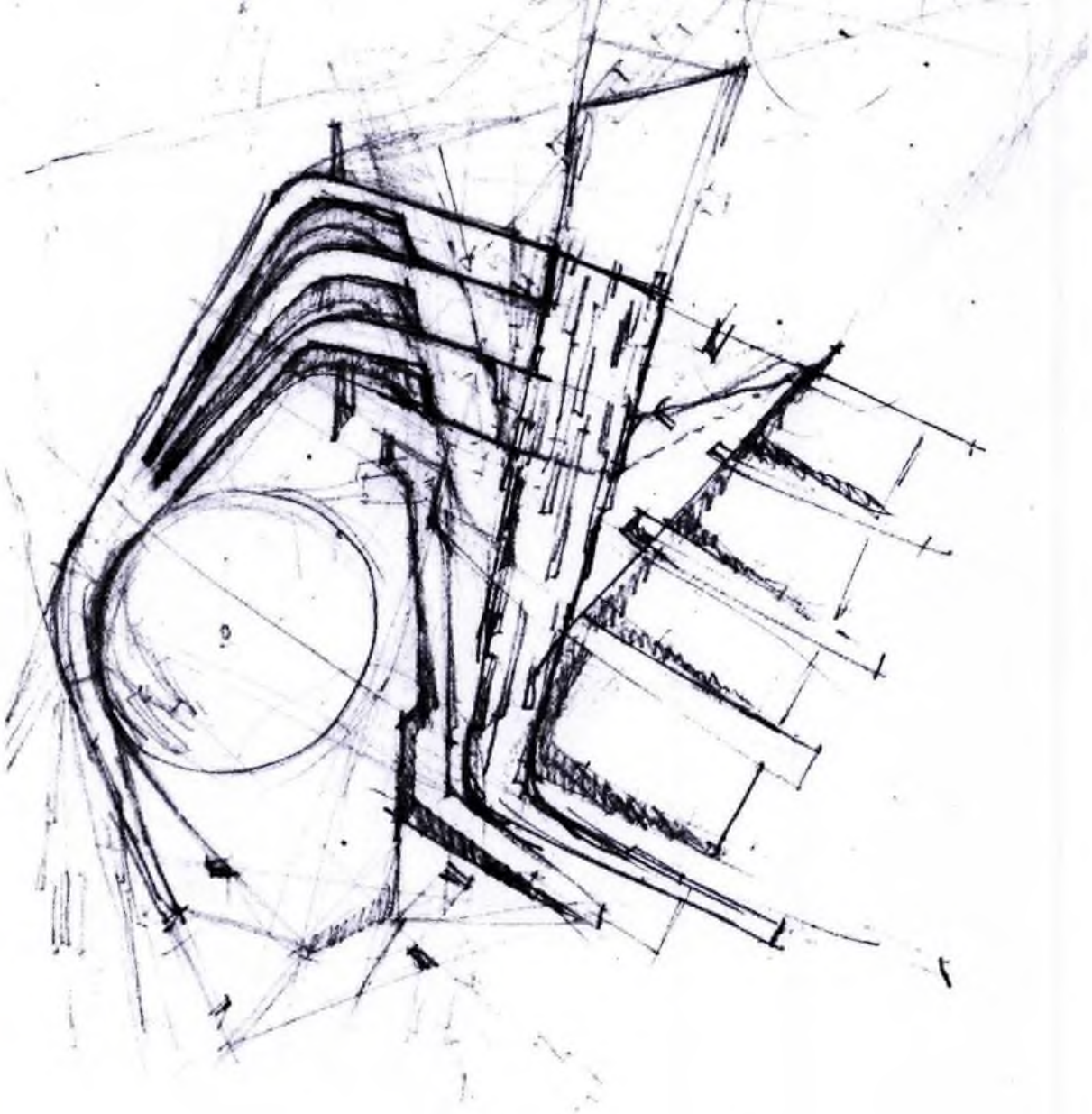


Figure 98: Conceptual Plan (Phase 02)

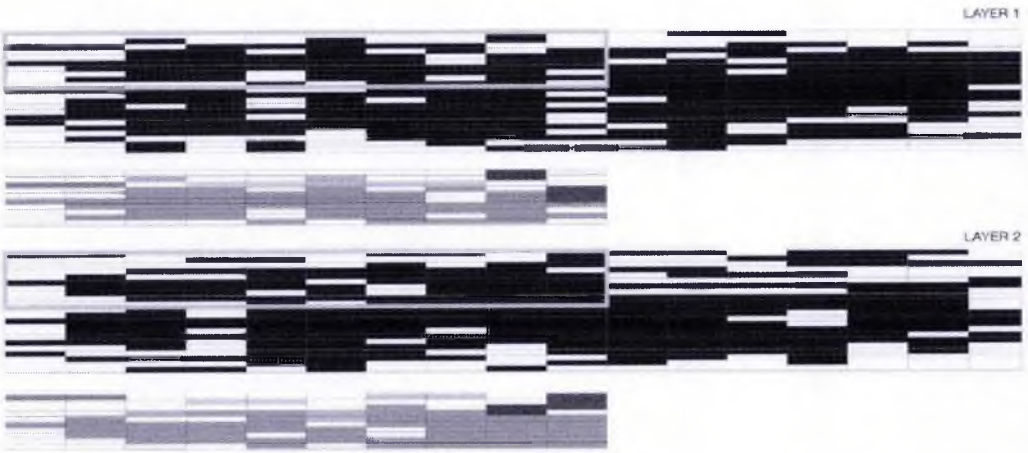
experimented with using various fenestration patterns consistent with the brush strokes concept devised during the first phase.

A radial layout was devised for use in parts of the plan which were circular in shape (e.g. the pond). This radial layout is representative of the same brush strokes discussed earlier, drawn into arcs and circular segments to yield three dimensional cylindrical segments as ultimately used in the atria and the small amphitheater on the pond.

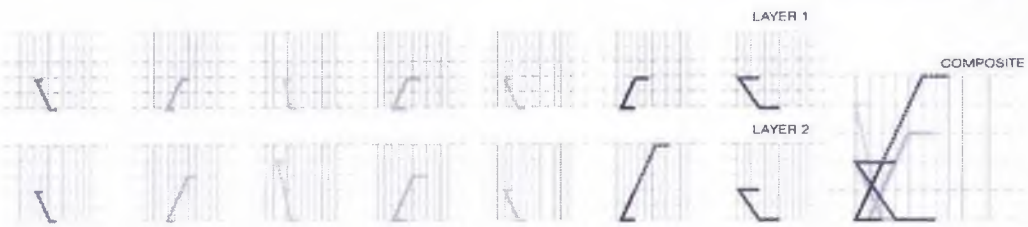
7.3 Design Development Phase III

This completing phase collates all findings and developments from previous phases into an architecturally, structurally and environmentally sound design. This phase also sees the design evolve into a more organized layout with a combination of two separate concept elements – the painting interpretation and brush strokes – to combine to define the semi-soft pavement layouts of the landscape.

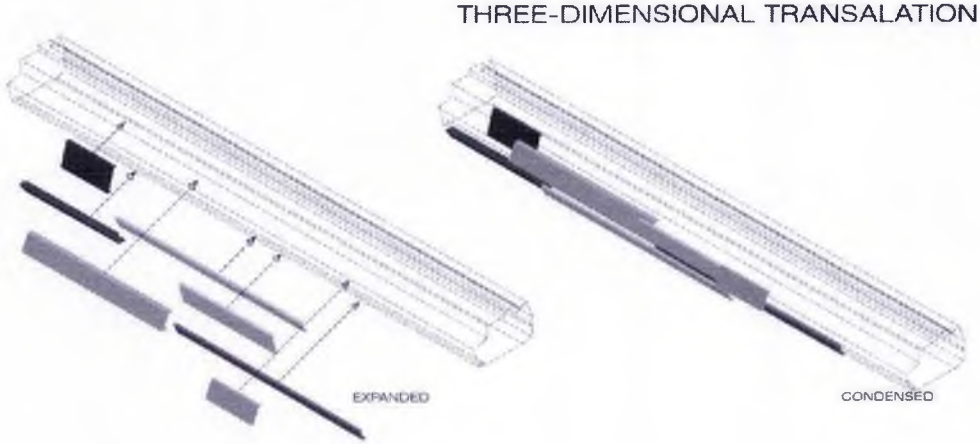
INTERPOLATION 2



SECTION EXTRACTION 3



THREE-DIMENSIONAL TRANSALATION 4



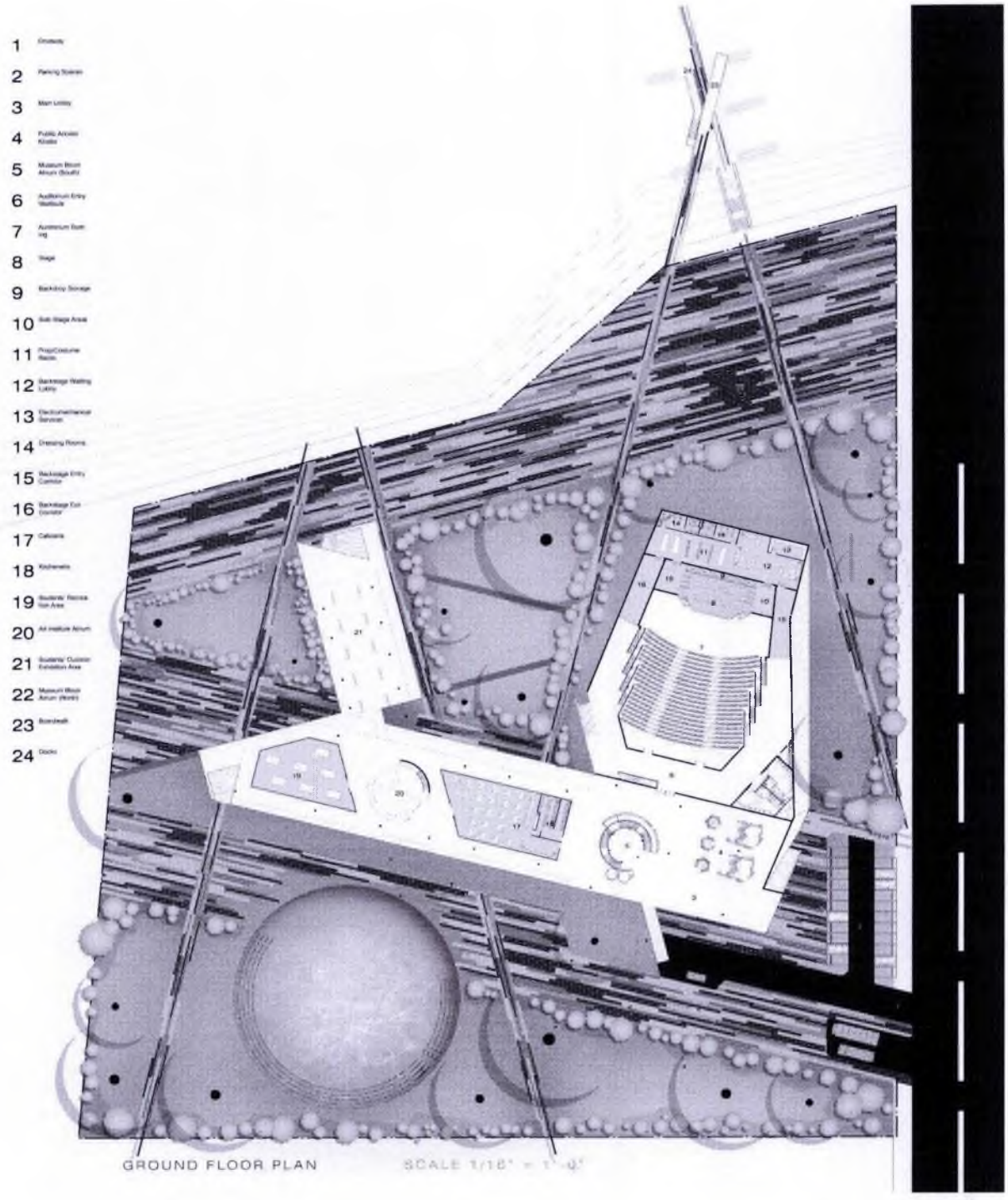


Figure 99: Ground floor plan

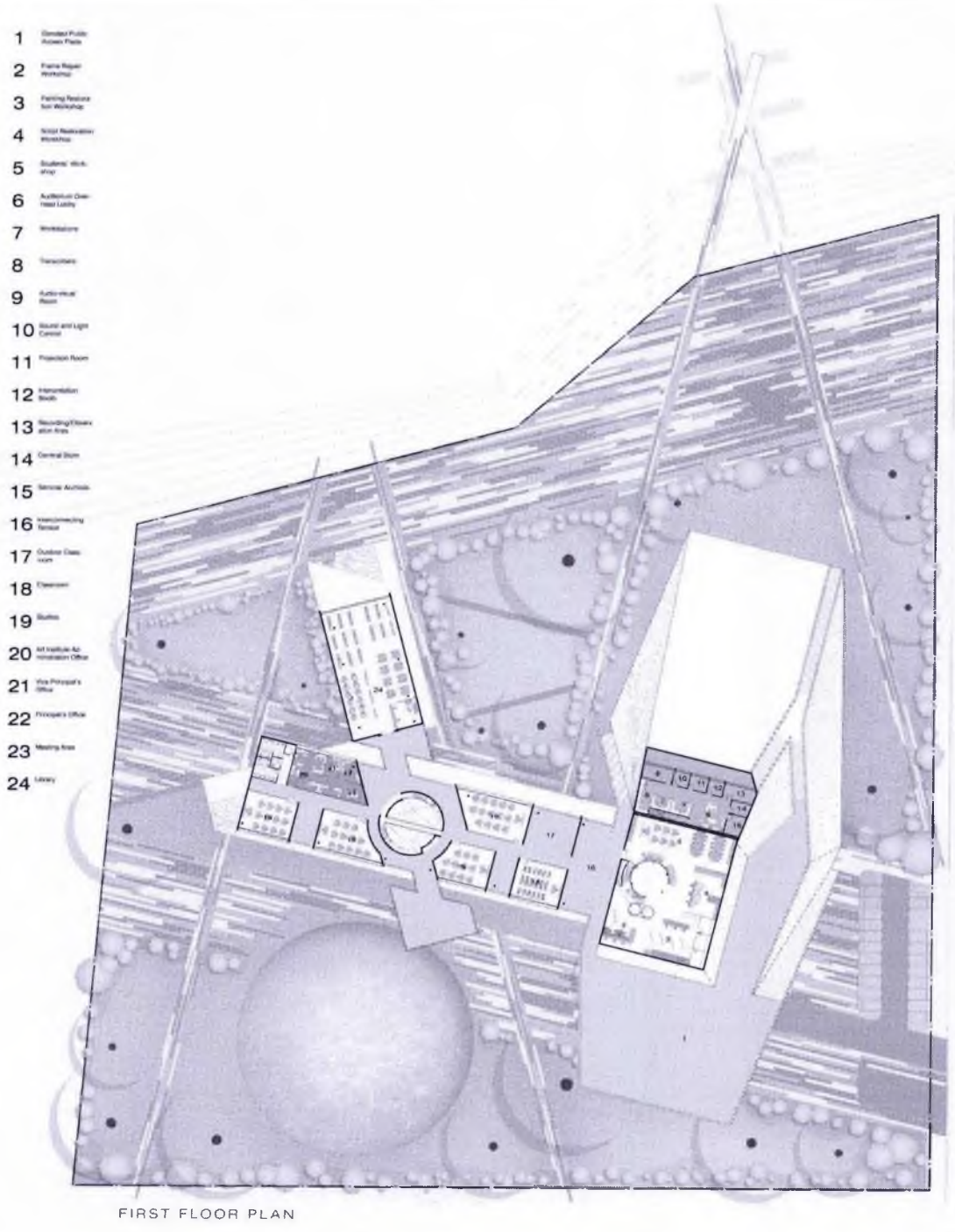


Figure 100: First floor plan

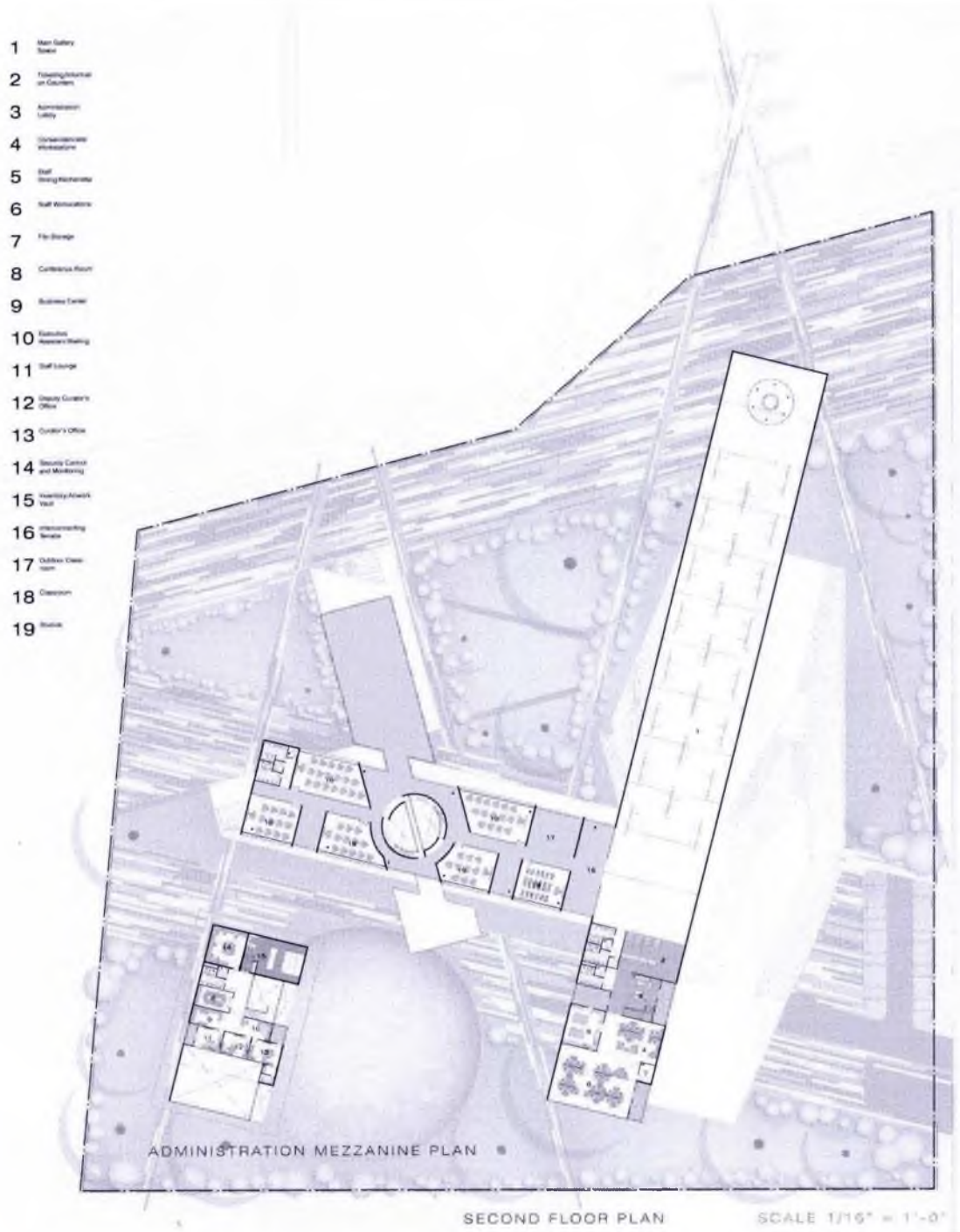


Figure 101: Second floor plan

Figure 102: Section

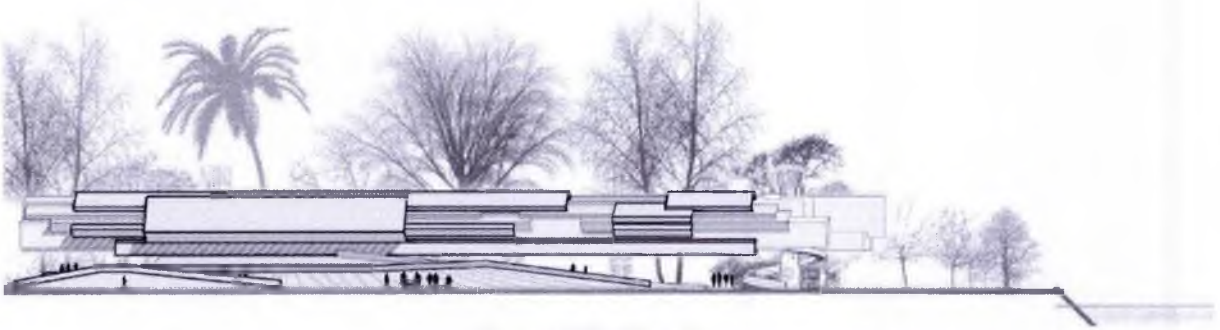


Figure 103: Elevation

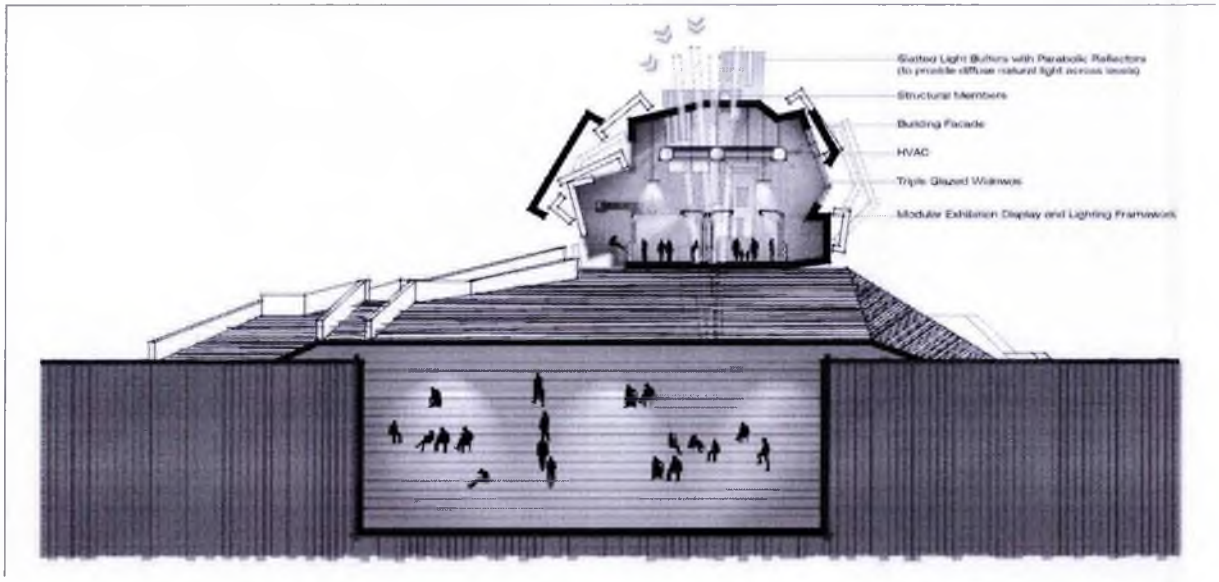


Figure 104: Section (museum)

art institute. The basic concepts were adapted in such a way as to accommodate the use of volumes and elements derived from the translation of brush strokes into devices for conveying natural light (light well) and as a solar chimney.

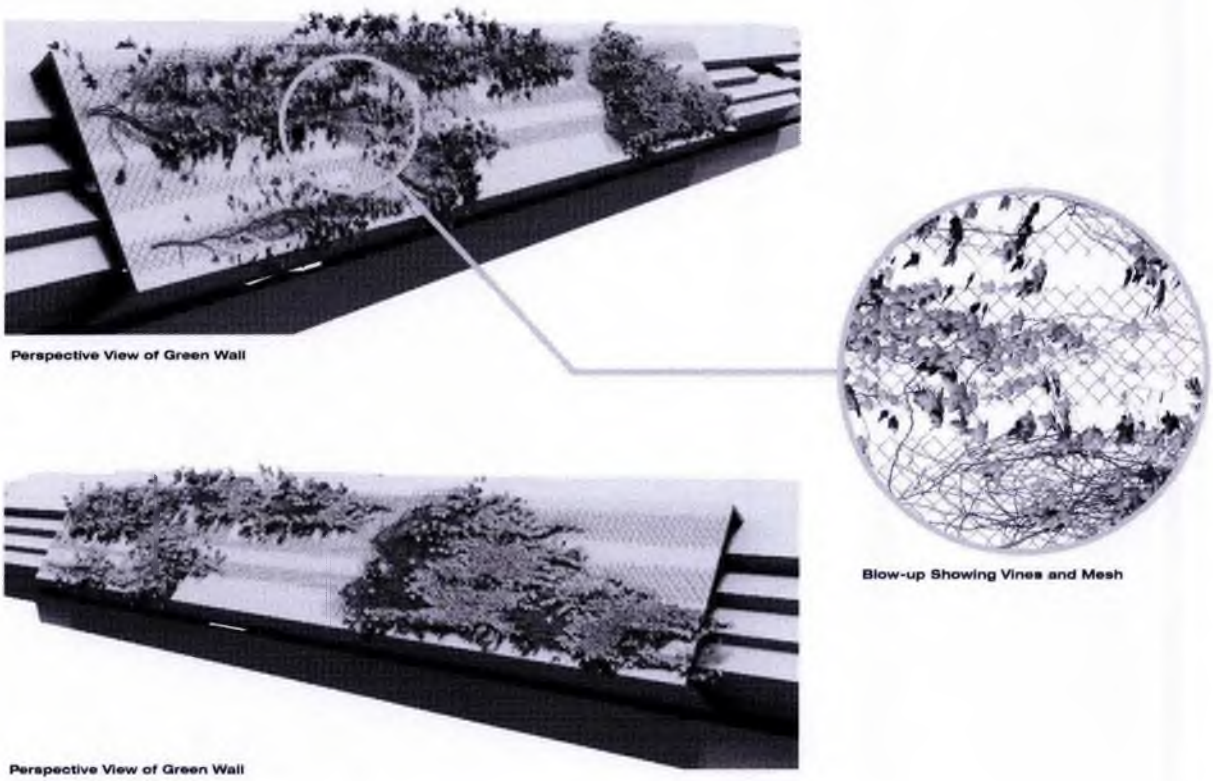


Figure 105: Green wall Detail (Bioclimatic consideration)

The end result was refined and reiterated until the desired morphology was achieved. The resulting layout should provide all necessary functions while still remaining aesthetically pleasing.

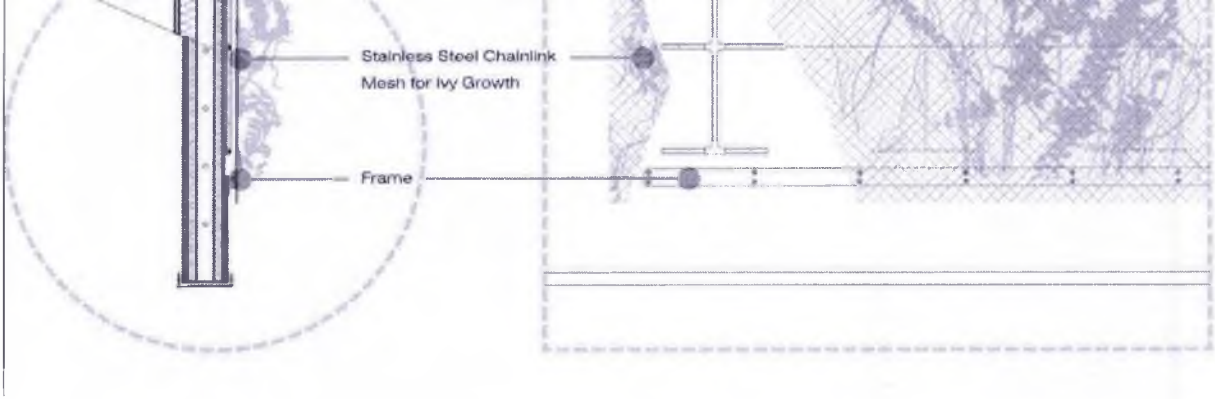


Figure 106: Details of ivy growth Mesh (Bioclimatic consideration)

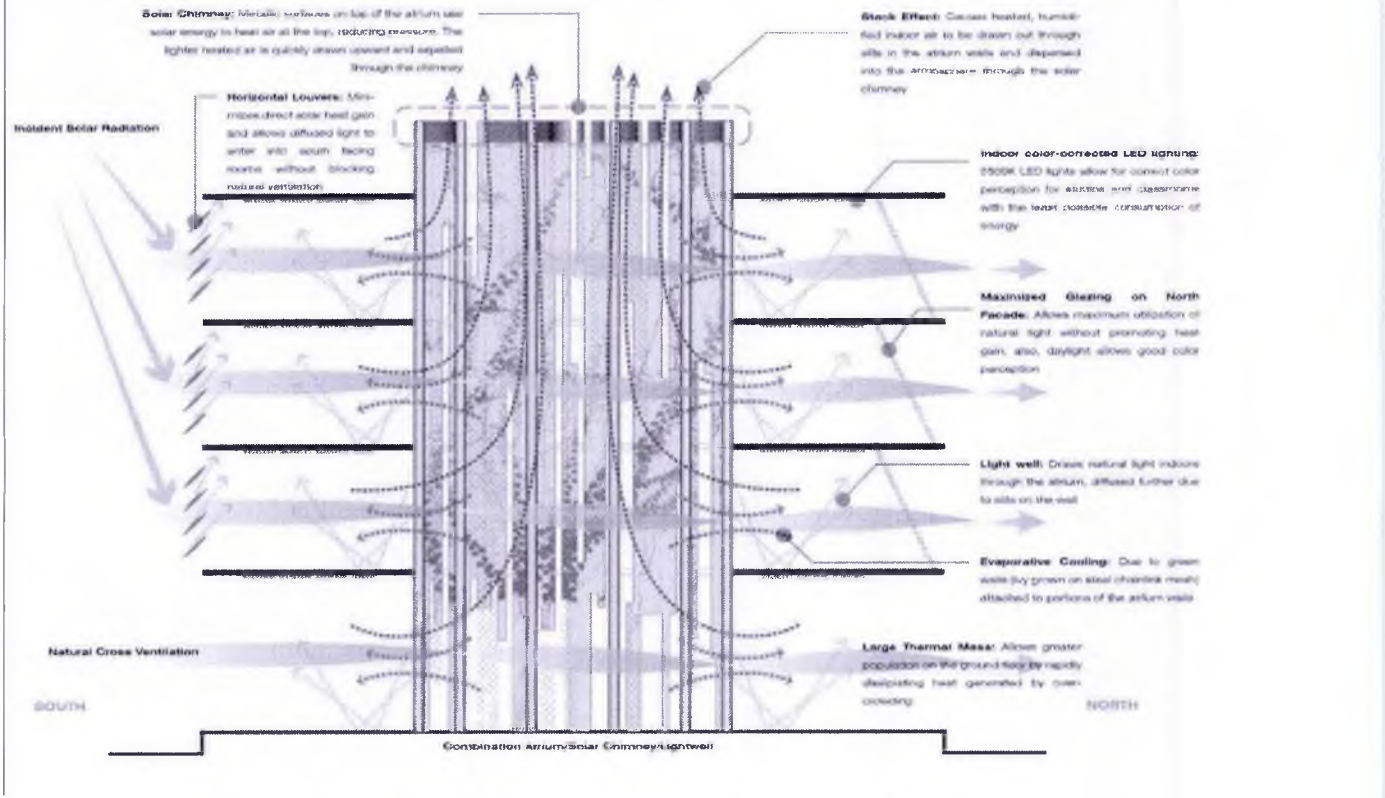


Figure 107: Solar chimney detail (Bioclimatic consideration)

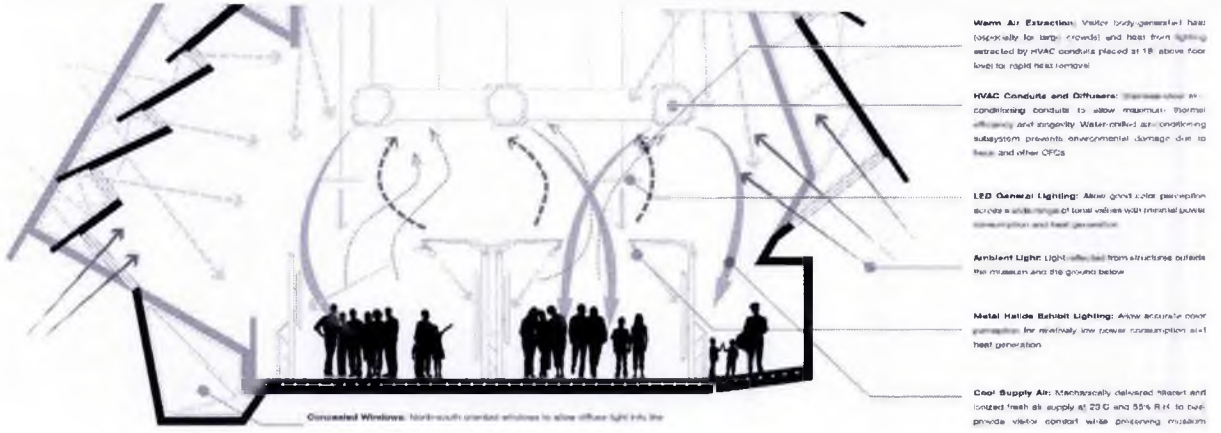
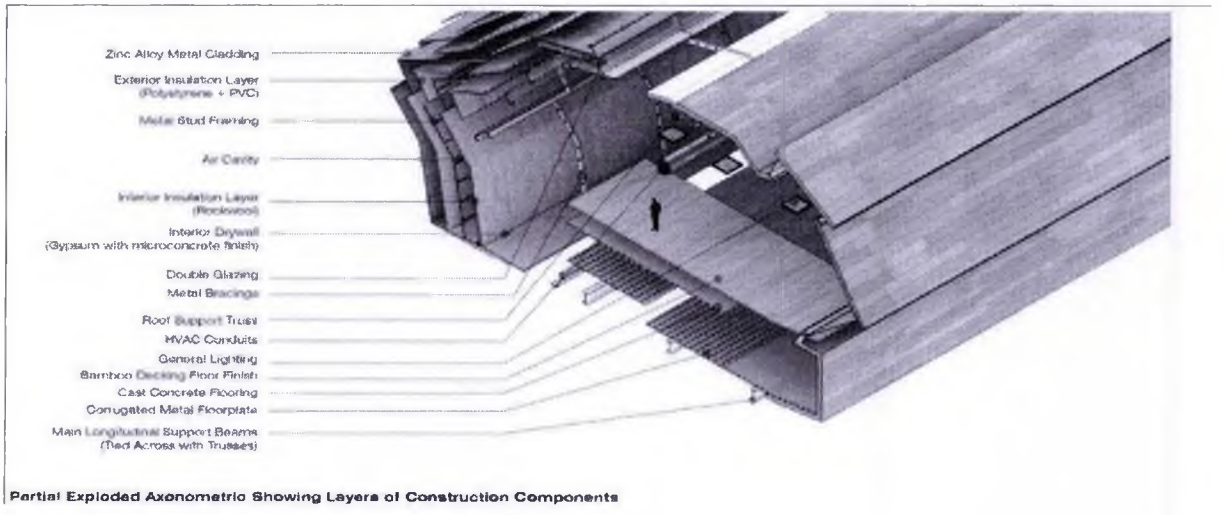


Figure 108: Museum section detail (Bioclimatic consideration)



Partial Exploded Axonometric Showing Layers of Construction Components

Figure 109: Structure detail (condensed)

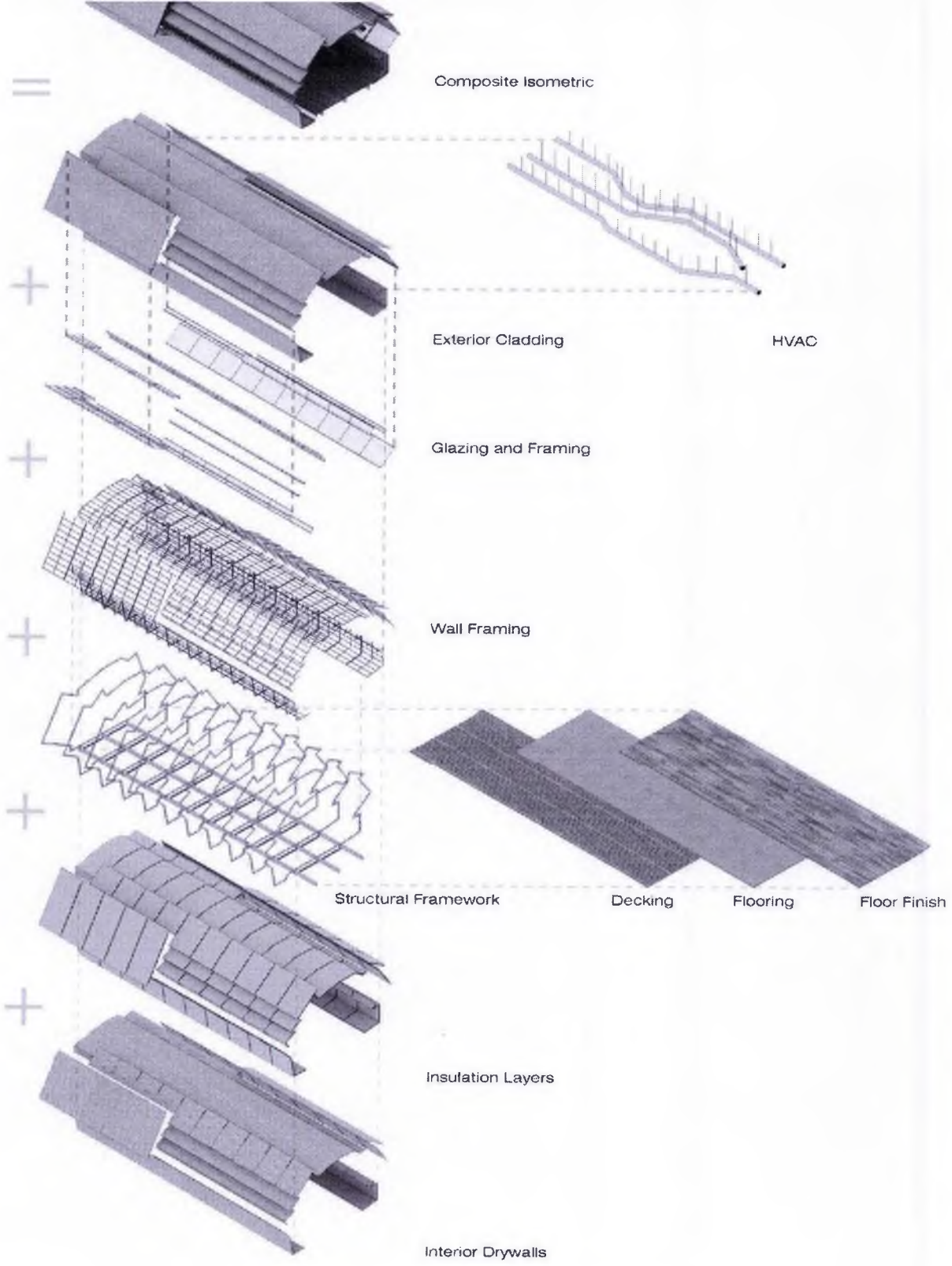


Figure 110: Structure detail (exploded)

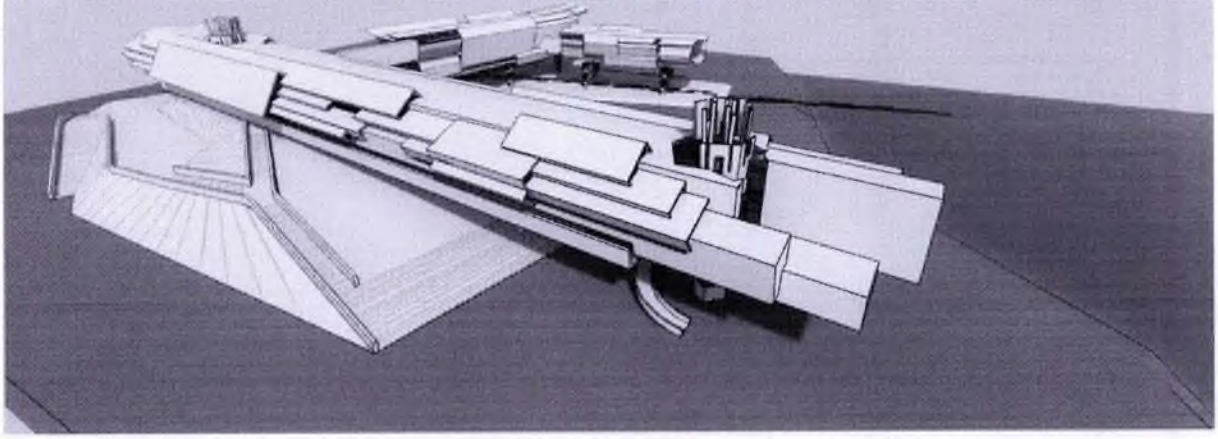


Figure 111: Final render

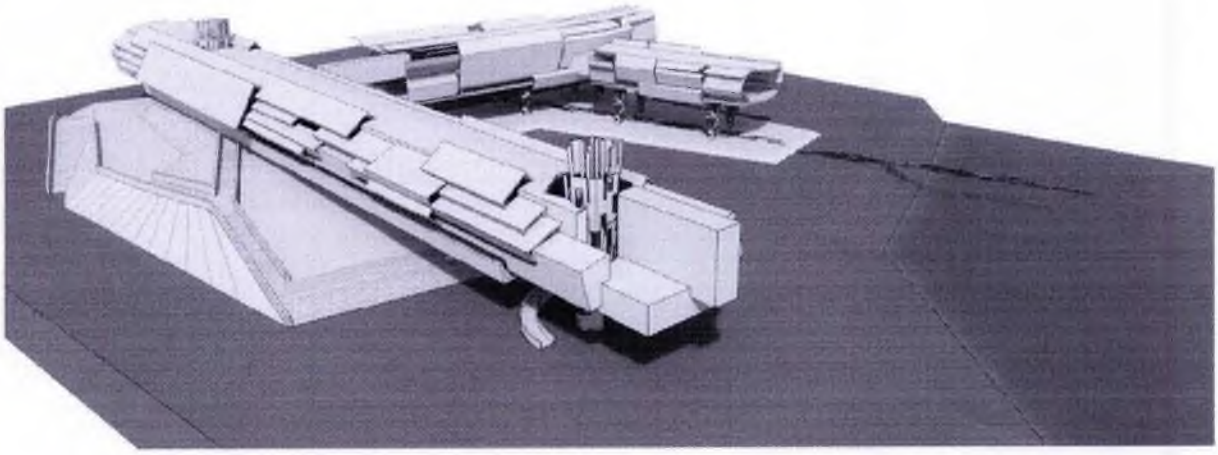


Figure 112: Final render

Figure 113: Interior render

8 CONCLUSION

The completed project presents spaces and forms which primarily use lighting and shadows to define a characteristic quality of space to in an attempt invigorate the mind of the viewer. This character of architecture has been iteratively realized by deriving inspiration directly from components in Zainul Abedin's own work – such as his unique style of using brush strokes and his method of organizing segments within a painting. The complex itself was designed with sound architectural core values in mind, the endeavor was to realize these goals within reasonable structural, functional, environmental and economic constraints while retaining the grandeur which will be expected of such a complex.

In conclusion, the project has attempted to provide visitors and aspiring artists with a design which promotes creativity by reflecting the nature of Zainul Abedin's work, while at the same time, serve as a monument to his contributions to the cultural heritage to Bangladesh.

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